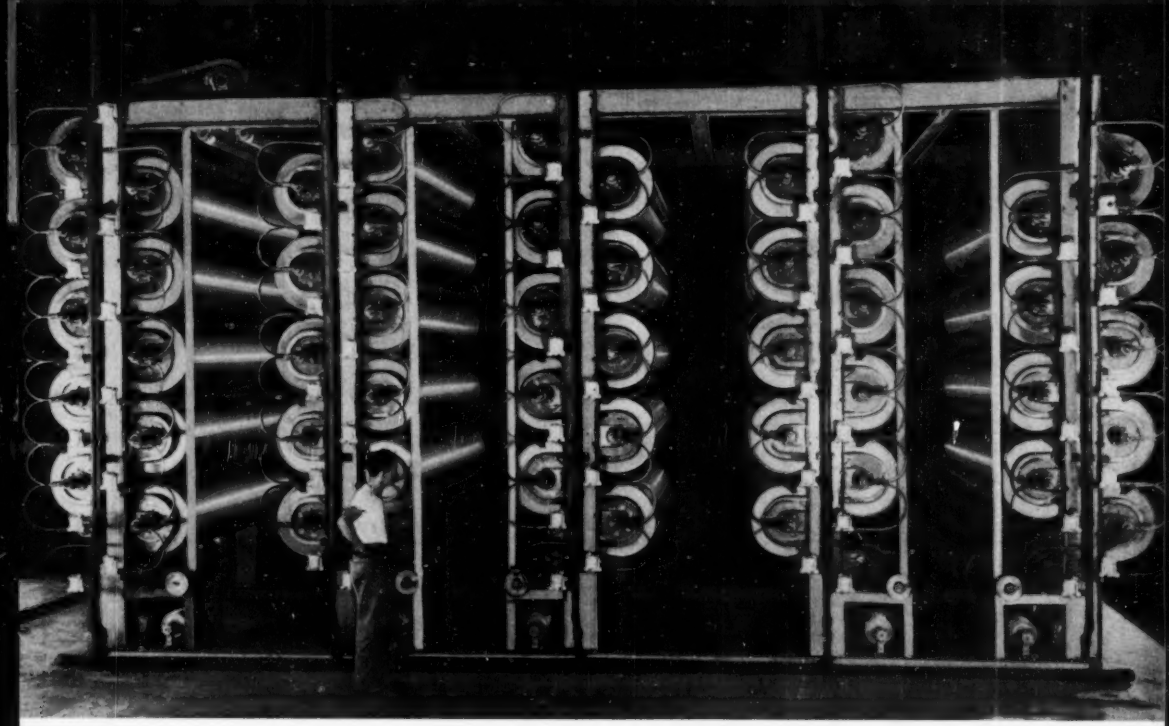
AUGUST, 1951

Textile Industries

Formerly
COTTON
Textile Industries



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Designed for Your Particular Needs

● We are equipped to build new and repair all types and sizes of drying cylinders for pressures to 150 psig.; ASME Code Construction if required. We can furnish steam, oil, or gas heated convection dryers to your specifications, or will collaborate in their design.

WE WELCOME YOUR INQUIRIES
AND WILL GLADLY QUOTE WITHOUT OBLIGATION

The Textile Shops
SPARTANBURG, S. C.
U. S. A.
●
Designers and Manufacturers of Textile Metal Products

Commercial

FACTORING

More and more, the word "COMMERCIAL" is recognized as the "distinguishing mark" in factoring. It is the symbol of long experience, complete facilities and resources, and a knowledge of every branch of the textile industry.

We will gladly explain in detail what *COMMERCIAL FACTORING* can mean to your business in new opportunities and increased profits.

COMMERCIAL FACTORS CORPORATION

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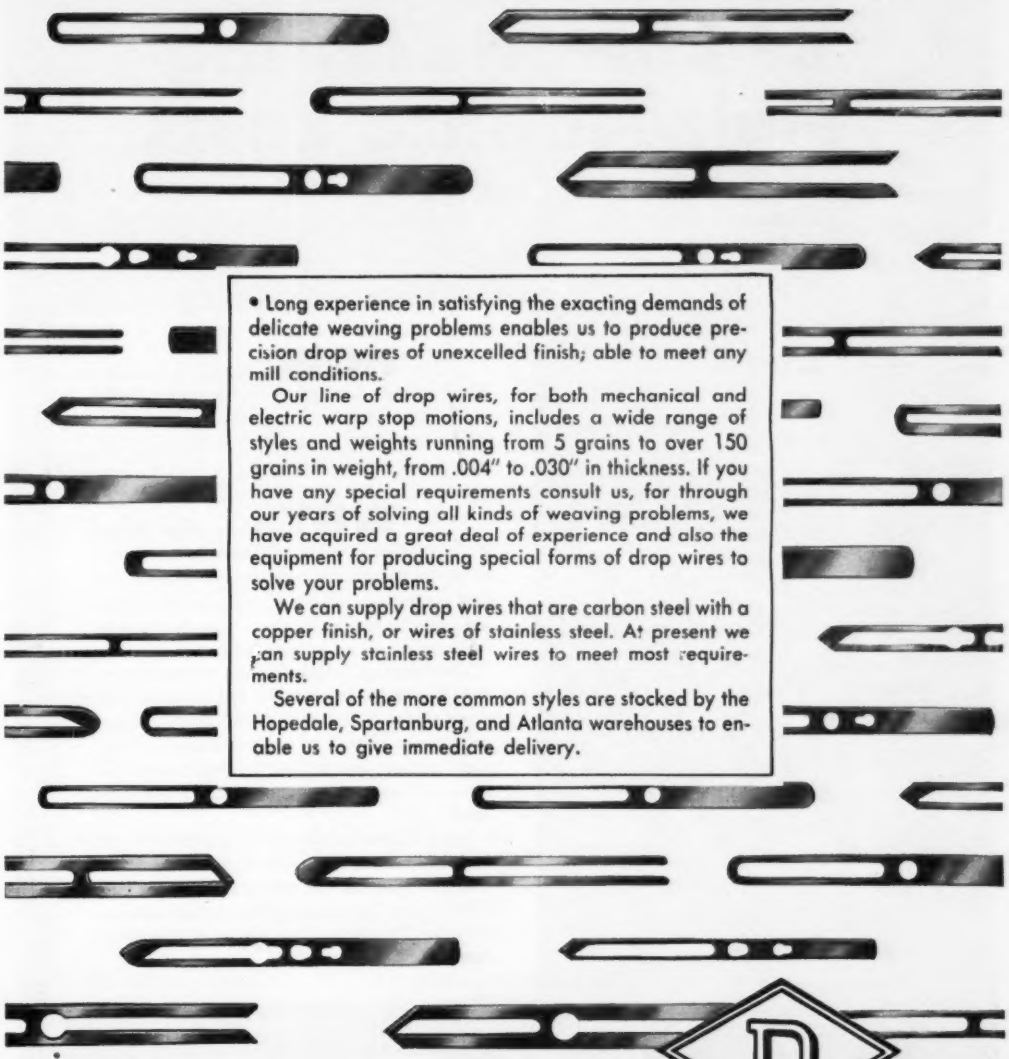
TEXTILE INDUSTRIES is published monthly at 116 E. Crawford St., Dalton, Ga., by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A. Executive and Editorial Offices: 806 Peachtree St., Atlanta 5, Ga.
Subscription Rates, United States and Possessions, $2.00 for one year; Canada, South America, Central America, $2.00 per year; Foreign Countries, $5.00 per year. Entered as second-class matter at the post office, Dalton, Georgia, under the Act of March 3, 1879.

Volume 115 Number 8

DRAPER DROP WIRES



• Long experience in satisfying the exacting demands of delicate weaving problems enables us to produce precision drop wires of unexcelled finish; able to meet any mill conditions.

Our line of drop wires, for both mechanical and electric warp stop motions, includes a wide range of styles and weights running from 5 grains to over 150 grains in weight, from .004" to .030" in thickness. If you have any special requirements consult us, for through our years of solving all kinds of weaving problems, we have acquired a great deal of experience and also the equipment for producing special forms of drop wires to solve your problems.

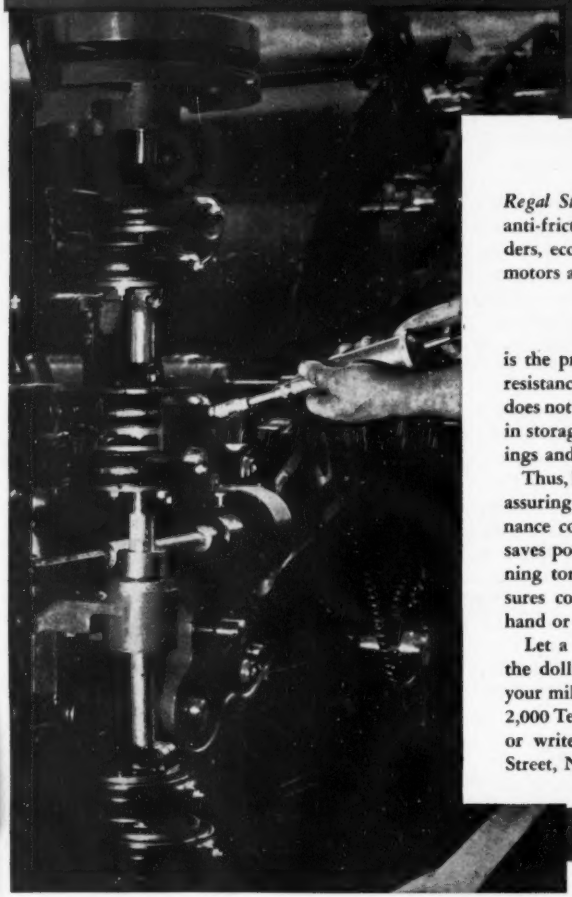
We can supply drop wires that are carbon steel with a copper finish, or wires of stainless steel. At present we can supply stainless steel wires to meet most requirements.

Several of the more common styles are stocked by the Hopedale, Spartanburg, and Atlanta warehouses to enable us to give immediate delivery.

DRAPER CORPORATION

KA ELECTRICAL WARP STOP DIVISION • PAWTUCKET RHODE ISLAND

The HOW and WHY of Lower Bearing Maintenance Costs



HOW— Simply use *Texaco Regal Starfak* for high-speed, grease-lubricated anti-friction bearings — in spinning frame cylinders, eccentric straps, beamers, warpers, electric motors and other machinery.

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Thus, bearings get long-lasting, full protection, assuring longer bearing life and lower maintenance costs. In addition, *Texaco Regal Starfak* saves power because of its low starting and running torques; and its low internal friction assures cool-running bearings. Easy to apply by hand or gun.

Let a Texaco Lubrication Engineer show you the dollars-and-cents value of these benefits in your mill. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

ABC

Textile Industries

Volume 115, Number 8
August, 1951

FEATURES

Radiant Heating System Facilitates Full-Fashioned Hosiery Manufacture ---- 87
Georgia Cotton Yarn Mill Uses "Throw-Away" Spinning Bobbin ---- 91
Good, Hot Meals Served Attractively by an Industrial Catering Firm ---- 92
Tape Condensers—Operation and Maintenance, Part 2 ---- 95
Nep Count Reduced by Opening and Picking Changes ---- 98
Weave Design Variations ---- 101
Preparation and Bleaching of Cotton Piece Goods, Article 2 ---- 102
Stitch Cam Gauge for Komet Machines ---- 105
Gauges Make the Difference ---- 106
The Supervisor and His Responsibilities, Article 3 (Cooperation with Other Overseers and Management) ---- 108
Handbook for Spinners ---- 111
Textile School Graduates Enter Industry ---- 115
Three Mills Become One ---- 116
Stream Pollution Alleviated at Pepperell by Processing Sulphur Dye Waste ---- 118
Rocky Mount's Experience with Control Boards ---- 121
Problem of Creeping Inflation ---- 127
Profits from Effective Textile Machinery Lubrication, Article 2 (Carding) ---- 129
Central Lubrication, Village Maintenance, Salvage and Supply Discussed by Alabama Mill Men ---- 137
Quality Control of Cotton Fibers ---- 143

GENERAL and TECHNICAL

Research on Card Comb Drive ---- 71
Supported Plastic Upholstery in Pattern ---- 71
Saran Staple ---- 71
Japanese Treaty Not to Restrict Production ---- 71
Rinsibility of Synthetic Detergents ---- 71
Request Renewal of Learner Certificates ---- 71
No Fault with Holeproof Ads ---- 73
Woven Wool Fabrics Redmanized ---- 73
On Defense Contracts and Research Facilities ---- 75
Requesting Delay for Reservists ---- 75
Harness Frames Have Free-Riding Slide Hook ---- 81
High-Production, Infra-Red Dryer for Knit Goods ---- 81
Spiked Apron Magnetic Separator ---- 83
A.E.O. Hosiery Mending Iron Provides Controlled Heat ---- 83
Simpler Price Control System Proposed ---- 90
STA Meets at Blowing Rock ---- 100
Television Comes to Industry ---- 110
Ten Years of Cotton Textiles ---- 114
Age of Full-Fashioned Knitting Machines ---- 133
Woolen and Worsted Research Listed ---- 133
Story of N. C. State's School of Textiles ---- 141
Tensionless Compensator Synchronizes Tub Speed ---- 166
Dyeing Assistant for Use with "Dacron" ---- 169
Cleaner Operates from Compressed Air ---- 169
Prevents Static Charge on Nylon ---- 170
8-Denier Rayon Staple ---- 171
Jacquard Socks Knit Automatically ---- 175
Expansion Program at Meadows Mfg. Co. ---- 182
New Southern Headquarters for Crescent Corp. ---- 184
Insulation Value of Cloth ---- 185

DEPARTMENTS

News in Brief ---- 71
An Executive Views the News in Textiles ---- 77
Future Events ---- 79
New Equipment and Materials ---- 81
Shorts and Remnants ---- 85
How Other Men Manage ---- 152
An Old-Timer Says— ---- 187
Personal Notes About Men You Know ---- 190
Helpful Booklets Free ---- 199
What the Textile Mills Are Doing ---- 209
Suppliers' News ---- 215

HOW OTHER MEN MANAGE

Function of Card Doffer Cylinder ---- 152
Multi-Purpose Spinner's Hook ---- 155
Repair for Damaged Key Ways on Mule Delivery Rolls ---- 157
Remedies for Uneven Picker Laps ---- 157
Comments on Drawing Rolls ---- 161
Rubber Coated Spinning Tapes Reduce Slippage ---- 161
Array Shows Fiber Length and Distribution in Wool Tops ---- 163

Payment for contributed articles is made upon acceptance, before publication.

"Textile Industries" has the largest circulation among the mills of the United States and Canada of any textile publication.

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Published Monthly at 115 E. Gordon
Dalton, Ga.

by W. R. C. SMITH PUB. CO.

Editorial and Executive Offices
806 Peachtree St., N.E., Atlanta 5, Ga.
Telephone: Atwood 4462

ANNUAL SUBSCRIPTION
U. S., CANADA, PAN-AMERICA—$2.00
FOREIGN—$5.00

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A proper selection of acetate dyestuffs along with Dileine Conc. will result in dyeings that are highly resistant to atmospheric fading and sunlight. The slow exhausting properties of Dileine Conc. assures even distribution throughout the raw stock or heavy denier skeins.

Because of its stability to heat and slow exhausting properties, the use of Dileine Conc. requires no pre-treatment on conventional pressure dyeing equipment of acetate fibers ranging from 3 to 20 denier. This inhibitor has been used successfully for the dyeing of raw stock from a standing bath at high temperatures in a Hussong raw stock dyeing machine.

Dileine Conc. offers positive protection against atmospheric fading. Dileine Conc. assures rapid processing by even distribution throughout the material without sacrificing light fastness. Should you be interested, our technical service department would welcome the opportunity of submitting samples . . . custom-formulated . . . to meet your individual problems.

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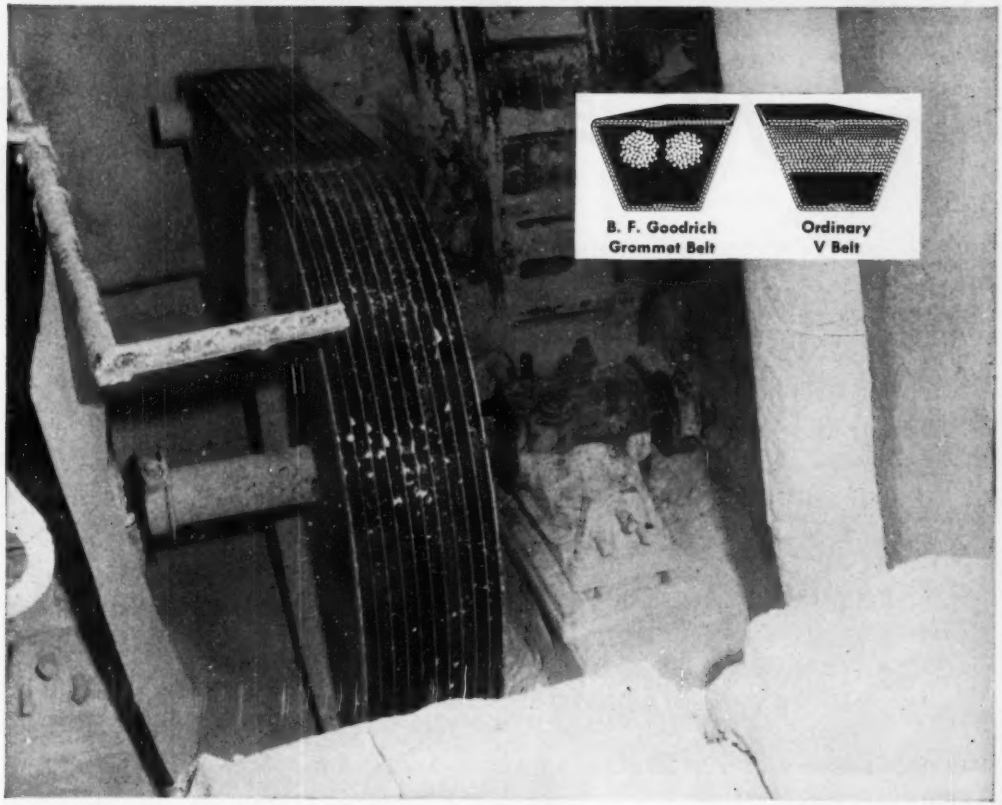
RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER



Where a change to B. F. Goodrich grommet belts saved $100 a week

B. F. Goodrich grommet V belts cut costs 20 to 50%

WHAT would you do if you were spending $100 a week to replace failing V belts on one drive? That was the case in this mill — ordinary V belts failed in a week or less. They couldn't carry the terrific power load.

The company called in the BFG sales engineer and B. F. Goodrich grommet V belts were installed. That was 5 months ago and the grommet belts look as good today as the day they were installed. Here's why:

Endless — A grommet is endless, made by winding heavy cord on itself to form an endless loop. It has no overlapping cord sections. Because most of the failures in ordinary V belts occur in the region where cords overlap, the endless grommet belt eliminates such failures.

Concentrated cord strength — All of the cord material in a B. F. Goodrich grommet belt is *concentrated* in twin grommets, positioned close to the driving faces of the pulley. No layers of cords to rub against one another and generate heat; cord and adhesion failures are reduced.

Better grip, less slip — Because a grommet is endless, a grommet belt is more flexible, grips the pulleys better. Size for size, grommet belts will give ⅓ more gripping power, pull heavier loads with a higher safety factor.

Only B. F. Goodrich has the grommet! — No other multiple-V belt is a grommet belt (U. S. Patent No. 2,233,294). Now available in C, D and E sections. See your local B. F. Goodrich distributor. Ask him to show you his "X-ray" belt that illustrates grommet construction clearly. *The B. F. Goodrich Company, Industrial and General Products Division, Akron, Ohio.*

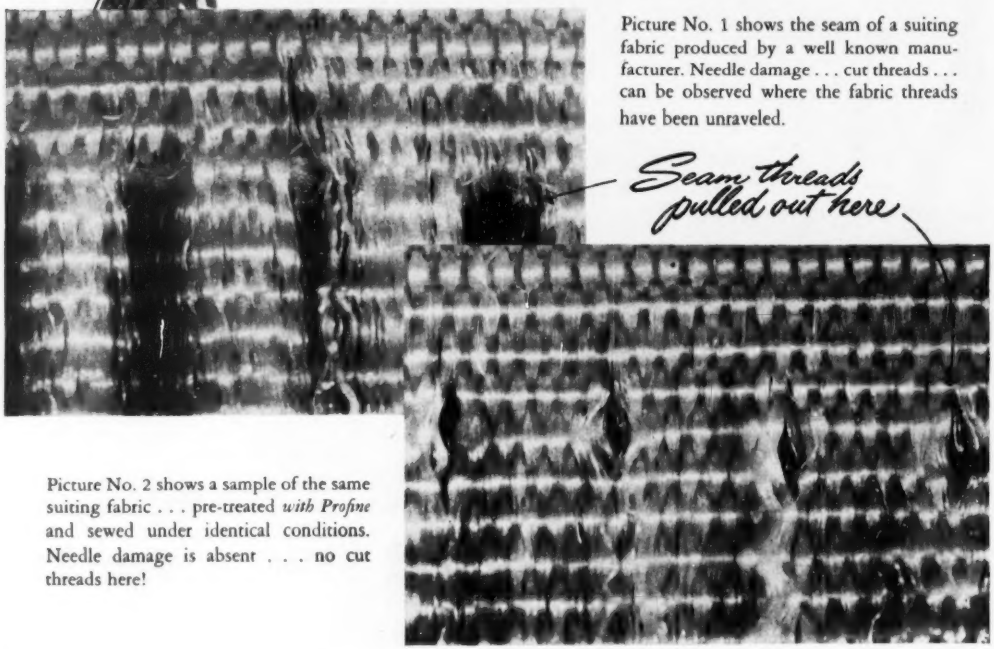
Grommet Belts BY

B.F.Goodrich

RUBBER FOR INDUSTRY

WEAK AT THE SEAMS... UNTIL FIBERS WERE LUBRICATED WITH PROFINE

What causes a well constructed fabric, sewed on modern machines, to exhibit excessive weakness at the seams? The pictures below tell the story.



Picture No. 1 shows the seam of a suiting fabric produced by a well known manufacturer. Needle damage . . . cut threads . . . can be observed where the fabric threads have been unraveled.

Picture No. 2 shows a sample of the same suiting fabric . . . pre-treated *with Profine* and sewed under identical conditions. Needle damage is absent . . . no cut threads here!

Profine controls softness, body and hand. If your knitted or woven fabrics require a full-bodied hand, you can get it with Profine. This efficient finishing agent gives you good whites that won't discolor . . . provides good anti-curl cutting . . . permits high speed sewing.

Profine is designed to up-grade fabrics . . . to increase their saleability. Try it.

Profine

Procter & Gamble
CINCINNATI, OHIO

MAKERS OF OLATE, PROXOL AND ORVUS PRODUCTS FOR BETTER TEXTILE PROCESSING

HIT BY LACK OF TIME AND PARTS?

OILITE Finished Machine Parts give you these important advantages:

- Quick delivery
- No tooling program
- Low price
- Release of skilled manpower
- Conservation of strategic materials

ALTERNATE MATERIAL
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Oilite processes help you eliminate as many as twenty-four machining operations.

SIMPLE TOOLING
Oilite products require little tooling; saving you floor space, jigs and fixtures, skilled manpower, and time.

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Oilite engineers pioneered iron powder metallurgy; their experience of more than twenty years, and Oilite's broad facilities are at your disposal.

OILITE FERROUS-BASE BEARINGS
Heavy duty, oil-cushion, self-lubricating.
Excellent for replacing your nonferrous units of solid material.

Oilite representatives and field engineers are located throughout the U. S. and Canada. You are invited to contact the field engineer in your district or write the home office.

AMPLEX MANUFACTURING COMPANY
Subsidiary of Chrysler Corporation
DETROIT 31, MICHIGAN

Besides Field Engineers, Supply Depots, too, are maintained in Principal U. S. and Canadian Cities.

A Note to Executives

Some facts about Oilite Products

Essentially, Oilite metal powder products constitute a new series of metals—each formulated to do a specific job. When used as replacements for tin, aluminum, copper, and other strategic materials, they often become permanent replacements.

For example, on any unit where motion occurs, Oilite provides the otherwise unobtainable feature of self-lubrication.

As with any other new material, habitual specifications should often be reviewed when considering Oilite finished machine parts. To illustrate, designers using cold rolled steel, may automatically apply the strength specifications of that material. The engineer, however, knows that strength as low as 40% of steel is satisfactory.

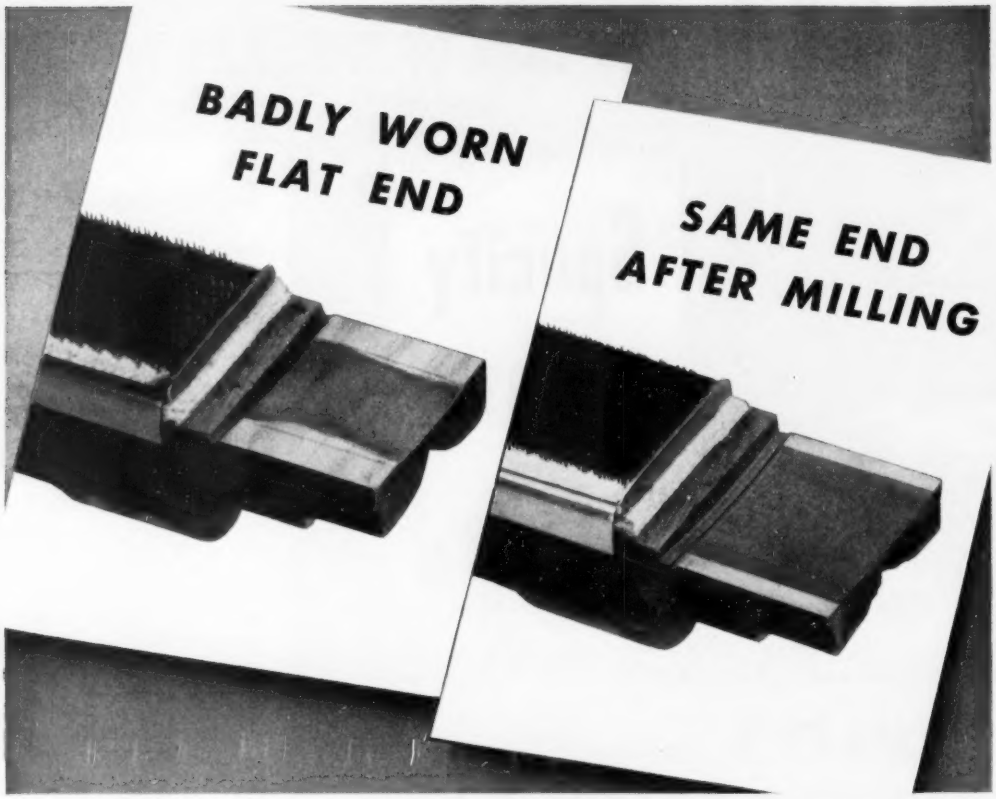
Another advantage of Oilite is its broad range of physical properties. Thus, when high stresses exist, Oilite engineers specify the correct material necessary to meet the requirements.

When production, including mass quantities, must be reached in record time, Oilite bearings and finished machine parts may provide you with an excellent reservoir.

President

OILITE
PRODUCTS

OILITE PRODUCTS:
Heavy duty, oil-cushioned, self-lubricating bearings and finished machine parts in ferrous and nonferrous metals and alloys. Permanent filters. Friction units. Self-lubricating cored and bar stock.



Remill Your Flats When Necessary

It's Part of Our Improved Flat Reclothing Service

Reclothing your flats won't stop poor carding, if your flat ends are badly worn. When you order flats reclothed, why not do a complete and thorough job? Our Fall River, Charlotte, Atlanta, and Greenville repair shops are better equipped than ever before to give you the following reclothing service:

1. Reclothe your flats.
2. Supply new flat chains for any make of card.
3. Last, but not least, remill your flats, when necessary.

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American Card Clothing Co. (Woolen Division)

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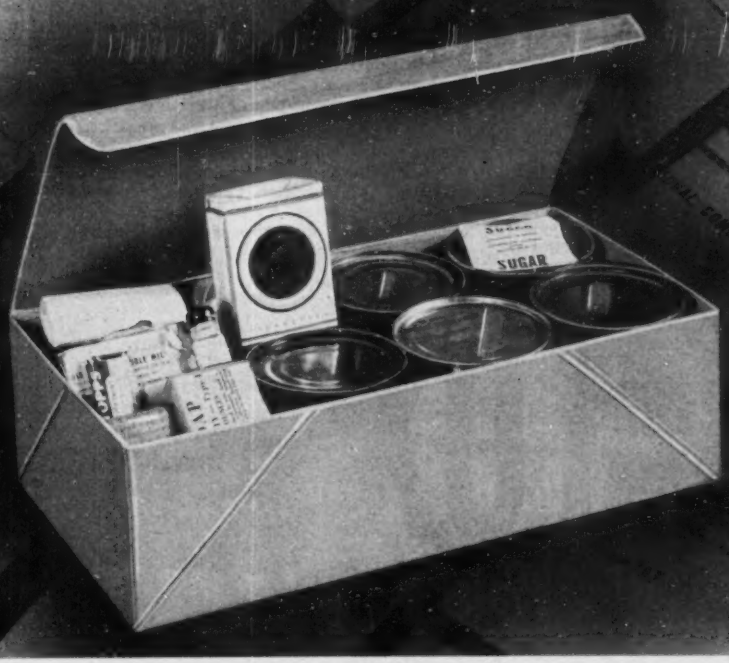
for Korea



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ATLANTA PAPER COMPANY

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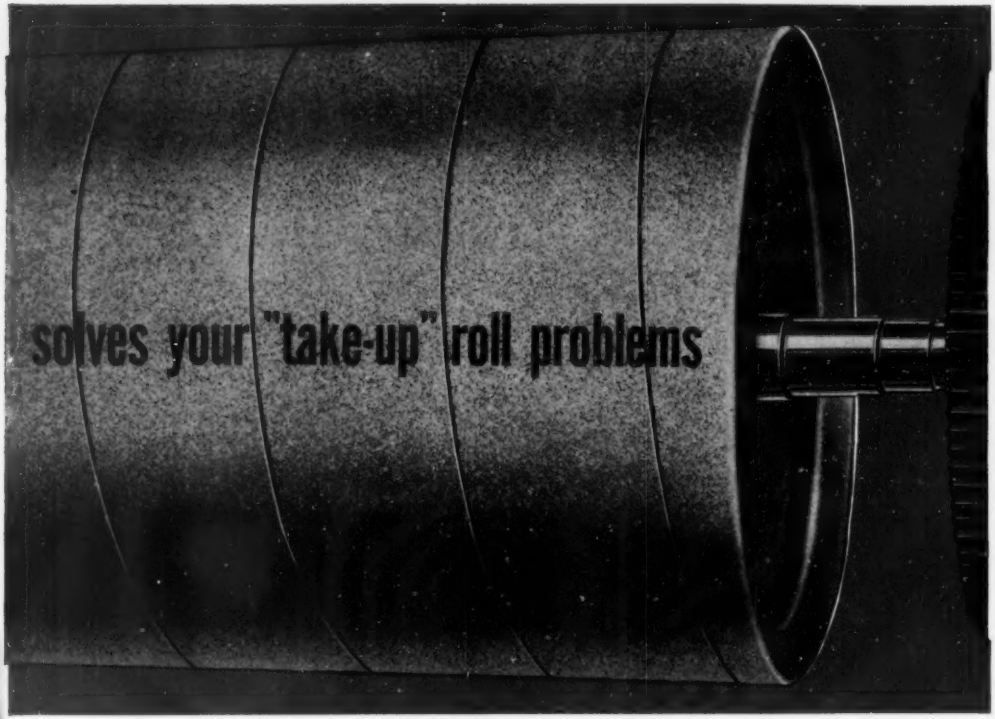

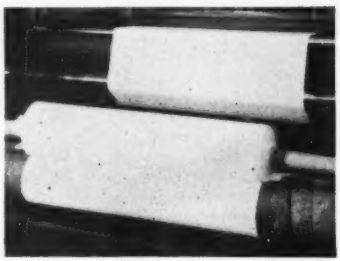

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For take-up rolls, measuring machines, folding machines, knitting machines and other applications requiring a positive friction surface.

Metalized Roll Covering by CARBORUNDUM

TRADE MARK

"Carborundum" and "Texalox" are registered trademarks which indicate manufacture by The Carborundum Company, Niagara Falls, N. Y.

82-119

How is Quality Measured?

Because of today's uncertain world conditions, your textile equipment may again have to be put to work on emergency schedules. The measure of its quality may be its ability to operate for long, continuous periods at peak production.

We invite your comparison of the Van Vlaanderen INSPECTALL with competing makes. The INSPECTALL has been purposely engineered to outlast and out-perform them all. Compare its features, point by point, as shown in the column at the left.

COMPARE

these features with those of any other make

- **Built to a precision and sturdiness not before available.**
- **Exclusive design, one-station group control for easier, faster operation.**
- **Wide-range, variable speed control at operator's finger tips.**
- **Instantly reversible, one motion clutch control, hand operated from any examining position.**
- **Let-off tension arrangement controlled from front of machine.**
- **Any fabric can be examined face or back because take-ups operate clockwise or counter-clockwise.**
- **Center bar quills are ball-bearing mounted with opposite end equipped with new, Van Vlaanderen positive center-bar lock.**

This new, superior examining machine will handle rolls up to 36" in diameter. Examining board is 36" high in widths for 60" and 70" cloth. Special widths available. Machine is equipped with precision clock, measuring yards and eighths from shell to shell. Attachment (optional) available for running tube to tube or shell to tube.

The INSPECTALL is equipped with ball bearings throughout . . . sealed in for life. Drive is completely enclosed. Oversize dry disc clutches. Hard chromium-plated guide rolls.

You are invited to see this quality machine. We also make a tubing and measuring machine, a combination tubing and doubling machine and a roll make-up beaming machine.

VAN VLAANDEREN INSPECTALL

VAN VLAANDEREN

You are invited to see this machine.

MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey

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World's largest manufacturer of machines for processing modern fabrics

An open letter to package dyers . . .

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Re: Package Drying in One Hour

Standard Fabricators, Inc. has just designed the most revolutionary Extractor-Drier in package dyeing history. This new development has reduced package drying time from a normal four to five hours operation to an average of two hours for a complete cycle of extraction and drying.

At the coming AATCC Convention, we intend to demonstrate the superb performance of this Extractor-Drier. We shall take any commercial wound package you bring and dry it within one hour.

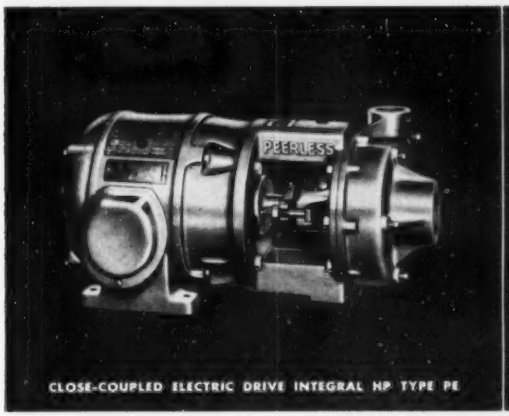
We invite you to take part in witnessing one of the greatest achievements in package drying.

Very truly yours,

STANDARD FABRICATORS, INC.

CLOSE-COUPLED ELECTRIC, BELTED OR FLEXIBLE COUPLED END-SUCTION PUMPS FOR ALL WATER PUMPING PURPOSES

PEERLESS PUMPS



CLOSE-COUPLED ELECTRIC DRIVE INTEGRAL HP TYPE PE

FLEXIBLE COUPLED DRIVE FRACTIONAL HP TYPE PB

THE PEERLESS *Fluidyne* LINE

IDEAL FOR CONDENSATE WATER PUMPING, EVAPORATIVE COOLERS, HOT OR COLD WATER AND PUMPING OF OTHER CLEAR MILD SOLUTIONS

Now, more than ever, it's important to specify and buy dependable, efficient pumps for both new and replacement services.

And, now from one of the broadest lines of general purpose pumps offered by any manufacturer, you can satisfy your requirements for both peak performance and prompt delivery, in many sizes, with pumps in the versatile Peerless Fluidyne line, illustrated here.

From the Peerless Fluidyne line, two general types of pumps are available. One type is a close-coupled, electric drive pump, designated as the Peerless Type PE; the other is a bracket-mounted pump for flexible-coupled, V- or flat belt pulley drive, designated as the Peerless Type PB.

Both types are economical both in first cost and in service. Both are built for easy maintenance, if service is required. Both are rugged and compact in design. Both are of good design, fitting neatly into any piping and pumping systems. Both embody superior hydraulic characteristics.

Read the specifications at the right. One or several types of Peerless Fluidyne pumps is sure to match your specifications. And delivery is available from two Peerless factories, located at Indianapolis, Indiana and Los Angeles, California.

SIZES:

Type PE HP Range
¼ to 1½ hp fractional hp sizes
2 to 60 hp integral hp sizes

Type PB HP Range
¼ to 1½ hp fractional hp sizes
2 to 150 hp integral hp sizes

CAPACITIES:

Type PE
Up to 65 gpm; fractional hp sizes
Up to 1000 gpm; integral hp sizes

Type PB
Up to 50 gpm; fractional hp sizes
Up to 5500 gpm; integral hp sizes

HEADS:

Type PE
Up to 110 ft.; fractional hp sizes
Up to 200 ft.; integral hp sizes

Type PB
Up to 90 ft.; fractional hp sizes
Up to 260 ft.; integral hp sizes

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FOOD MACHINERY AND CHEMICAL CORPORATION
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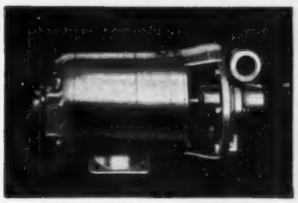
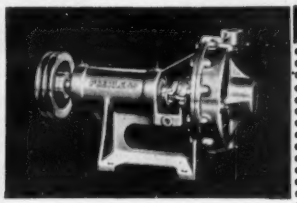
PEERLESS PUMPS fmc

NEW BULLETIN describes additional features of pumps in the Peerless Fluidyne line. Write for your copy of this 24-page fully illustrated and descriptive engineering bulletin today.



Electric drive fractional HP Type PE



V-Belt drive integral HP Type PB

MAIL COUPON TODAY

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORP.
Los Angeles 31, California

Please send me a copy of Peerless Fluidyne Pump Bulletin No. 8-2300.

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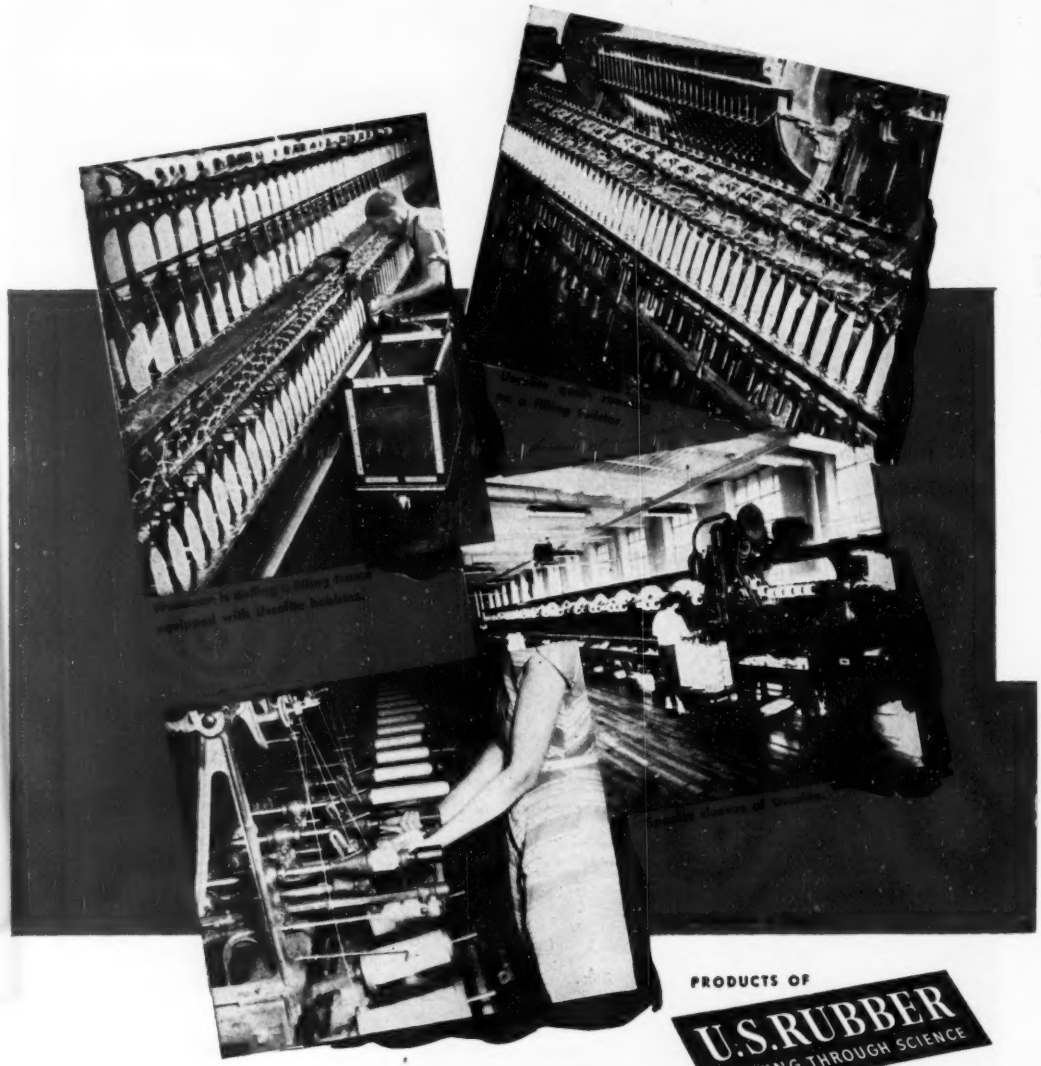
Tex. Ind.

Great news in Textile



PRODUCTS OF

U.S.RUBBER

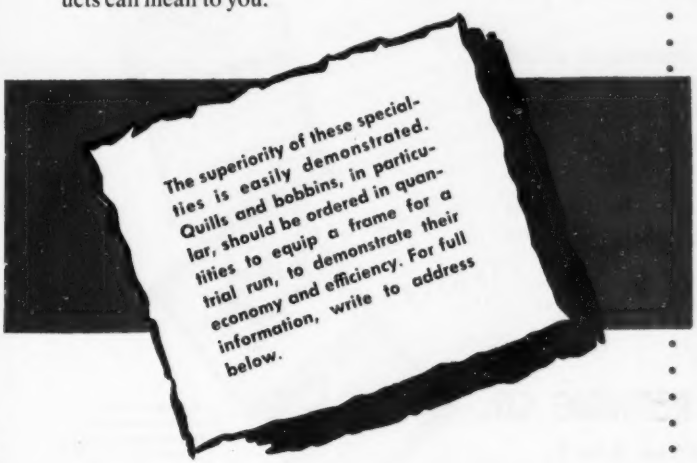
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

Mill Specialties!

REMARKABLE ECONOMIES IN PERFORMANCE MADE BY U. S. RUBBER'S NEW SPECIAL COMPOUNDS

"U. S." scientists and engineers have succeeded where others failed. By formulating their own compounds of plastics, they have developed mill specialties with entirely new standards of efficiency and durability. These plastic specialties are *superior* to conventional materials. They include products for carding and spinning, twisting and throwing, and for the loom and winder. Many are made, for example, of Uscolite, the rubber-plastic compound that has had such marked success in so many industrial fields. Read (at right) just what these products can mean to you.


The superiority of these specialties is easily demonstrated. Quills and bobbins, in particular, should be ordered in quantities to equip a frame for a trial run, to demonstrate their economy and efficiency. For full information, write to address below.

MECHANICAL GOODS DIVISION, ROCKEFELLER CENTER, NEW YORK 20, N. Y.

HERE'S WHY U. S. TEXTILE MILL SPECIALTIES EXCEL:

• for carding and spinning
(made of Uscolite)

QUILLS AND BOBBINS: Will not chip or splinter, are very tough. High surface friction eliminates or minimizes sluffing of yarn.

COP BUTTS: Very tough and resistant to breaking, chipping, denting and splintering. Recommended for heavy duck mills and carpet mills.

TAPERED WARP TUBES hold yarn and minimize sluffing. Precision molding insures uniform fit and long life.

SPOOLER SLEEVES are resistant to chipping around the edges. This minimizes creel breaks on the warper, reduces occurrence of wild yarn and knots in the twister beams and slasher beams.

• loom and winder supplies
(U. S. Royal brand)

PYRAMID SAND ROLL COVERING: Positive grip prevents cloth from slipping. High abrasion resistance and durability.

TRACTION TOP ROLL COVERING: Recommended for any make of loom. Exceptionally strong backing, valuable on take-up rolls in tire cord mills where covering must be applied under high tension.

ACETATE RESISTANT COVERING: Has the pyramid design and is specially compounded for acetate warps and for mills weaving only synthetic fabrics. Exceptionally long life, easy to apply.

SPINDLE BUMPER TUBING: Oil resistant, plus high durability. Recommended for all box-type looms. Economical, easy to apply.

LOOM BUMPERS: Give excellent loom performance and long life. Bumper stock is supplied in large slabs which are cut to size by the user to show considerable savings.

PRESSER ROLL TUBING: Resistant to dyes, oils, and acetate; has long endurance. Can be applied in a matter of minutes.

WARP COMPRESSOR ROLL COVERING: Soft, sponge-like, yet tough, long-wearing; does not groove when yarn and cord pass over it under tension.

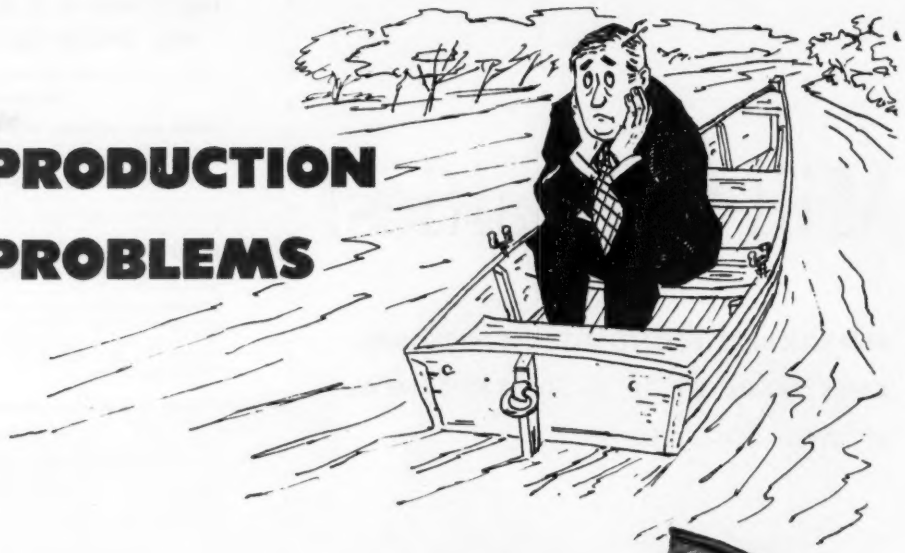
LOOM STRAPPING: An exceptionally good flexing resistance gives it extremely long life. Available with oil-resistant neoprene strap for modified-type looms where oil and grease tend to get on the strap. Reduces harness adjustments because of low stretching character.

WINDER PADS: New to the industry! They eliminate vibrations on the winder spindle thereby reducing chafing of the yarn. Low cost, long life.

WINDER TIRES: Provide proper speeds without slippage and maintain the correct amount of friction in the specialized rubber of which they are formed. Unaffected by oil or gas, will not pick up lint.

• for twisting and throwing

U. S. ROYAL SPINNER BELTING: Made from famous Ustex-Nylon duck which features high strength and low stretch. Jacket is put on belt under less tension than the carcass, to assure long surface life. Jacket is not under strain when the belt is at full load. High surface friction for maximum, uniform spindle speed. Low stretch permits sustained high spindle speeds without frequent adjustments.



PRODUCTION PROBLEMS

got you up a creek?

● The function of our Technical Sales Department is to help solve various production problems in the field. These men are constantly working with new products and techniques — perhaps this experience would be helpful in smoothing out production sore spots in your operation.

Our basic, continuing research in starch chemistry is unsurpassed . . . under the direction of the foremost research men in this field.

Make the most of these facilities . . . no obligation, of course.

For uniform quality products...for a reliable source of supply. . . depend on Corn Products Refining Company.

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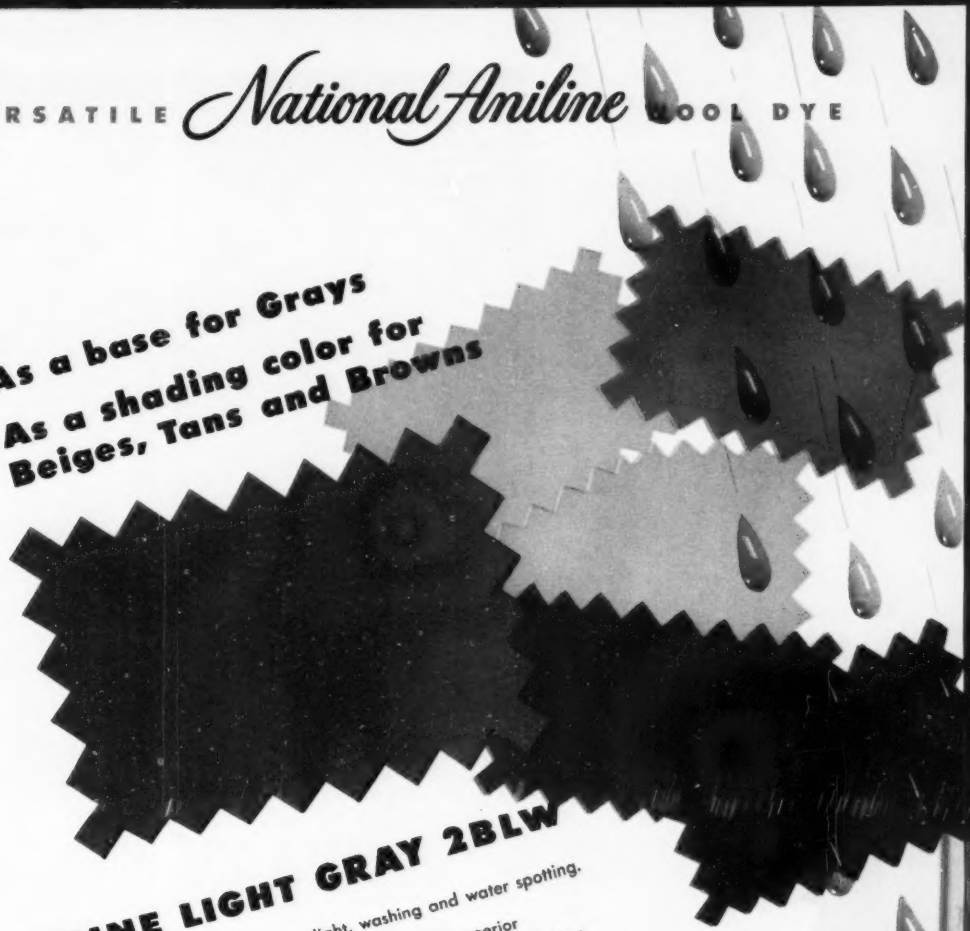
A VERSATILE *National Aniline* WOOL DYE



As a base for Grays

As a shading color for Beiges, Tans and Browns

ALIZARINE LIGHT GRAY 2BLW

- Excellent fastness to light, washing and water spotting.
- Good neutral dyeing properties with superior exhaustion and excellent color value in union dyeing.
- Widely useful in both military and civilian applications, wherever a high degree of fastness to light and water spotting is essential.
- For shade card, write, wire or phone our nearest office.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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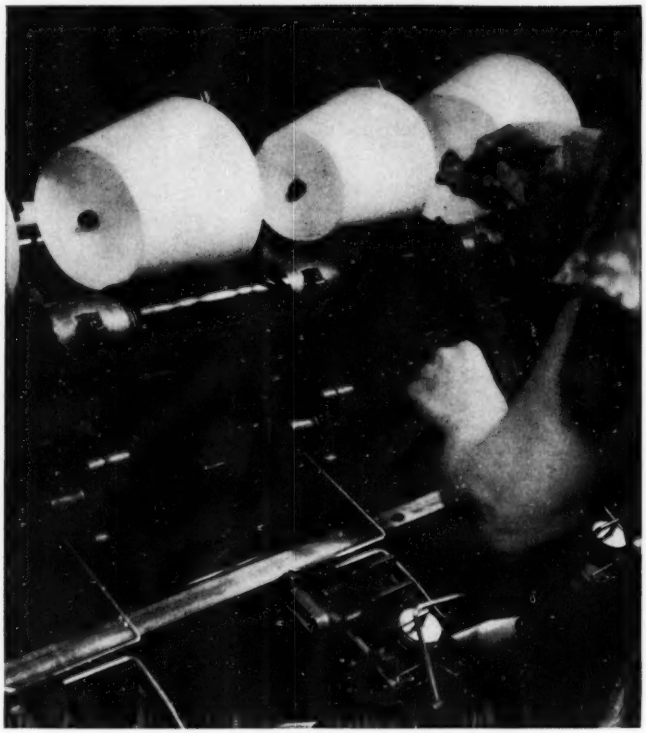
because it's

...clean

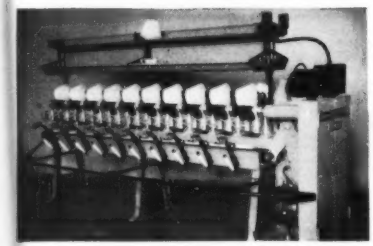
...quiet

...easy

to operate,



YOUR OPERATORS WILL PREFER THE ROTO-CONER*



Important factors--today--in machine selection:

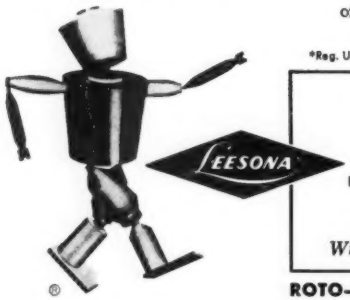
CLEANLINESS The broad flat surfaces of the Roto-Coner* are easy to keep clean—present few places for lint to collect. Smooth action of rotary traverse on yarn eliminates chafing and reduces lint.

QUIET RUNNING No nerve-racking clatter of cams and guides with the Roto-Coner*—just the soft hum of the rotary traverse.

CONVENIENCE Every motion the operator has to make is easy. Supply shelves are within easy reach. The starting handle can be depressed with a touch of the finger. Threading is simple.

So the Roto-Coner* is the choice of operators . . . also the choice of mill owners who appreciate the high speed, versatility, high-quality production and low maintenance of the Roto-Coner*.

*Reg. U. S. Pat. Off. 23.1.7



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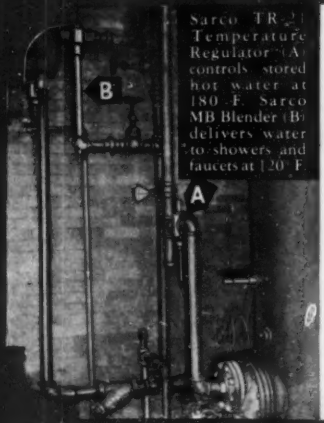
Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

ROTO-CONER* *The Textile Winder with the Rotary Traverse*

Don't Waste It



Sarco TR-21 Temperature Regulator (A) controls stored hot water at 180° F. Sarco MB Blender (B) delivers water to showers and faucets at 120° F.

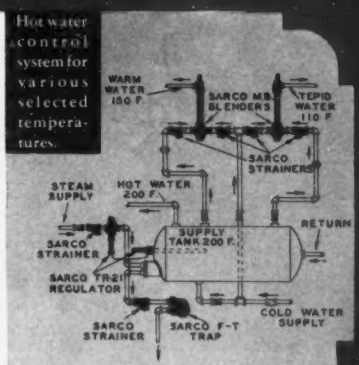
In most plants and institutions hot water is stored for periodic use in process work, gang showers, group wash basins, etc.

Much of this water (often carried at 180 or 200° F) is wasted by allowing manual temperature adjustment at the point of use.

Avoid buying additional Water Heater capacity by installing Sarco Water Blenders.

Blend It

Hot water control system for various selected temperatures.



They add cold water to the hot from the storage heaters to secure the exact temperature desired at the point of use. In effect, storage capacity will be increased by preventing waste.

Catalog 802 tells the whole story.

Write for free copy today.

SARCO COMPANY, INC.
Empire State Building, New York 1, N. Y.
Represented in Principal Cities
Sarco Canada Ltd., Toronto 5, Ontario

Sarco Water Blender type MB provides tempered water at any desired constant temperature.

Sarco Water Blenders

"... and they certainly paid for themselves in Increased Production, Better Quality, Lower Maintenance Cost and Longer Life —meant savings in subsequent operations, too"

Of course, he's talking about his

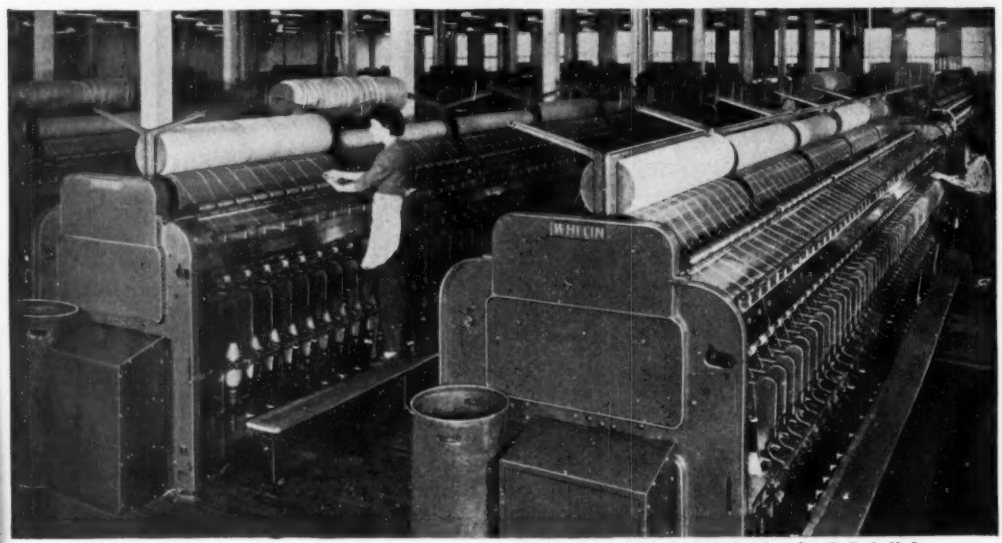
WHITIN Wool Spinning Frames

This is not an isolated case — mill men in all branches of the woolen industry have enthusiastically reported similar results.

The Whitin Model "E" incorporates the latest advances that have been made in ring frame spinning, and includes in addition, a number of exclusive features. Simple in design, yet carefully and ruggedly built, these frames are made to give many years of dependable service at a high rate of production.

This frame makes large package spinning practical, decreases direct costs in spinning, spooling, sewing and burling while producing stronger yarns and higher loom efficiency, which contributes toward lower costs in subsequent operations.

Whitin Model "E" frames may well be the answer to your wool spinning problems. Why not investigate?



Courtesy of A. & M. Karagheusian, Inc., Roselle Park, N. J.

Write today for descriptive literature on Whitin Model "E" Wool Spinning Frames.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANSBURG, S. C. • DEXTER, ME.

TEXTILE AIR CONDITIONING

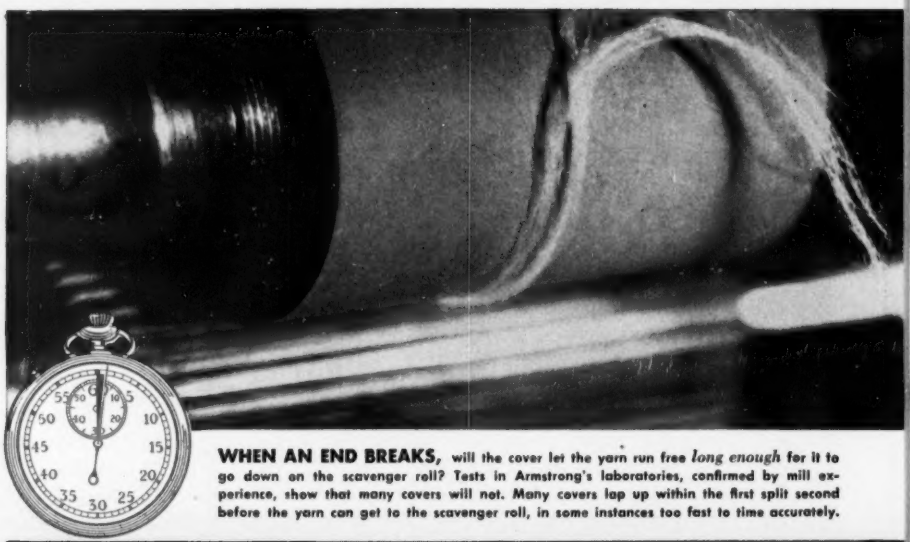
A Bahnson Humiduct air conditioning system with *refrigeration* maintains year 'round humidity and temperature control in this spun rayon twisting room; but—whether processing cotton, rayon, nylon or wool, Bahnson engineers will study *your* particular requirements and recommend the Bahnson system best suited to *your* needs . . .

HUMIDUCT UNIT SYSTEM
CENTRAL STATION AIR WASHER SYSTEM
CENTRISPRAY AIR WASHER SYSTEM
AIR VITALIZER SYSTEM

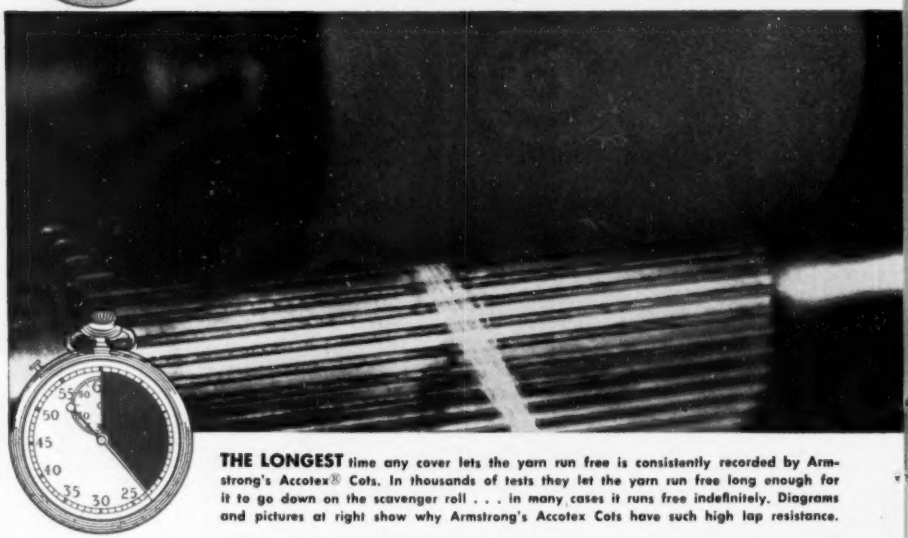
Bahnson Engineering is based on 40 years experience in textile air conditioning and Bahnson equipment assures maximum efficiency at minimum cost.

The Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

A Stop Watch



WHEN AN END BREAKS, will the cover let the yarn run free *long enough* for it to go down on the scavenger roll? Tests in Armstrong's laboratories, confirmed by mill experience, show that many covers will not. Many covers lap up within the first split second before the yarn can get to the scavenger roll, in some instances too fast to time accurately.



THE LONGEST time any cover lets the yarn run free is consistantly recorded by Armstrong's Accotex® Cots. In thousands of tests they let the yarn run free long enough for it to go down on the scavenger roll . . . in many cases it runs free indefinitely. Diagrams and pictures at right show why Armstrong's Accotex Cots have such high lap resistance.

shows which cover resists lapping best

IN measuring the lap resistance of a roll cover, the critical question is this: Will the cover let a broken end run free *long enough* to go down onto the scavenger roll?

In cot development work, it's important to get the answer to that question fast. That's why the textile section of Armstrong's Research Laboratory developed the stop watch test. This test gives them the comparative lap resistance of different cot compounds in minutes instead of months. At the same time, experience has proved that a cover that shows up well on this test also demonstrates superior lap resistance when it's installed in a mill.

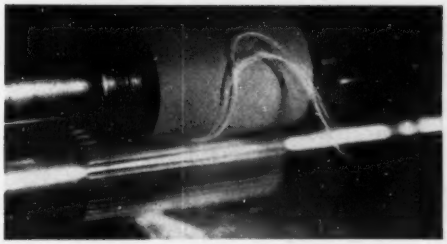
Here's how our research workers make the stop watch test. First, they put a cot on a frame section from which the scavenger roll and clearer board have been removed. Next, to make the test even more rigid, they speed up the frame many times faster than normal. Then they break an end and measure with a stop watch how long the cot will let the end run free.

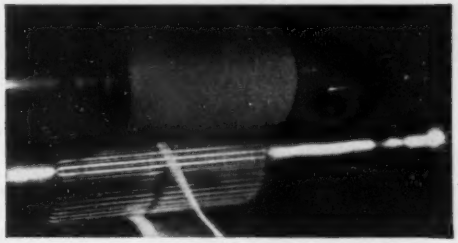
The longer the end runs free, clearly, the better chance it would have of going down on the scavenger roll in the mill . . . the more lap resistant the cover. In thousands of these tests against the stop watch, Armstrong's Accotex Covers consistently prove to have more lap resistance than any other cover made today.

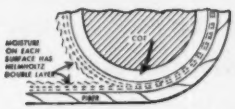
The secret of this high lap resistance is in the patented formula of the Accotex Cover. Every Accotex Cover contains electrolytes . . . a certain special ingredient that eliminates one of the principal causes of lapping, the natural attraction between cot and fiber.

Because no single cover formulation is best for all spinning conditions, Armstrong offers you a complete line of straight synthetic, and cork-and-synthetic Accotex Covers.

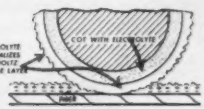
Ask your Armstrong representative to suggest the right Accotex Cover for your mill or work. Call him today for complete information or write Armstrong Cork Company, Textile Products Department, 3608 Arch Street, Lancaster, Pennsylvania. Available for export.





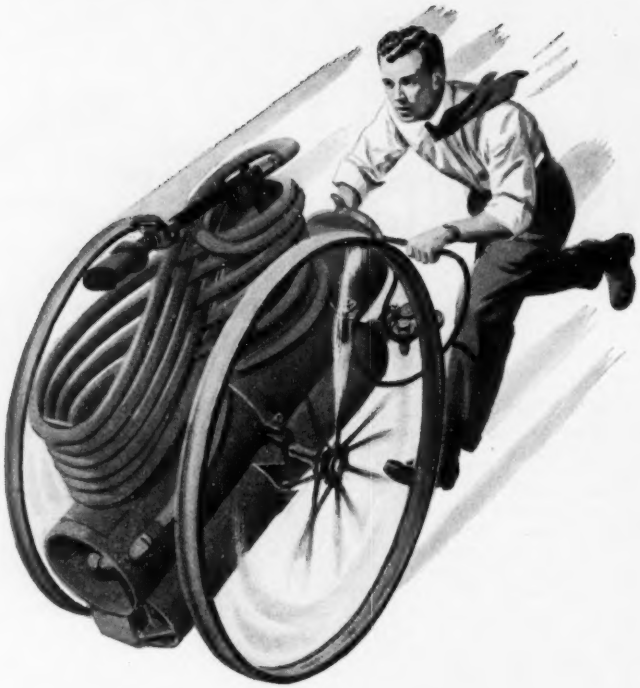


THIS COT LAPS: Moisture layers on fiber and cot contain electric charges that attract fiber to cot. When pressed together, the two moisture layers have effect of adhering fibers to cot.



THIS COT RESISTS LAPPING: Certain electrolytes put in patented Accotex Covers neutralize electric charges in moisture layer on cot. This cancels out the basic attraction of fiber to the cot.

ARMSTRONG'S ACCOTEX COTS



A ONE MAN "FIRE ENGINE"

—the Kidde Dry Chemical Wheeled Extinguisher

You *can* control a roaring fire in inflammable liquids, live electrical equipment, textiles or L-P gas. The Kidde 150 Pound Dry Chemical Wheeled Extinguisher packs a fire-fighting wallop that brings large fires under control quickly and easily.

The new "instant flow" hand control enables you to beat back fire with a long range "straight" stream... or to blanket the fire completely by the wider coverage which you get from the improved "fan" pattern.

One man can wheel this extinguisher through a standard doorway... apply 150 pounds of fire-smothering dry chemical in less than one minute.

Write for complete information on this new Kidde Dry Chemical Wheeled Extinguisher... or the full line of Kidde fire extinguishers and built-in systems.

Kidde

Walter Kidde & Company, Inc., 890 Main Street, Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

HCl
MURIATIC ACID
FROM
TENNESSEE

You can be certain of uniform quality, "timed" delivery with Tennessee as your source of supply.

As it is with all of our chemicals, *Tennessee Production Control* starts with the basic material and continues until you get delivery of each order. Our integrated facilities guarantee your getting the chemicals you want in the quantity and quality you require. Whether you buy a little or a lot . . . it's wise to buy chemicals from Tennessee.

TENNESSEE
PRODUCTS & CHEMICAL
Corporation
NASHVILLE, TENNESSEE

clean air costs less than dust!

DRYING YARN WITH SUPER-CLEAN AIR

Saves material and costly handling

ELIMINATING dust and soot solved a costly problem for this large bleaching and dyeing plant. Before Electro-MATIC precipitators were installed, the air circulating through the dryers was contaminated with air-borne dust and soot particles. These discolored the finished yarn during the drying process causing soilage, extra handling, and quantities of rejected material.

Now AAF Electro-MATIC precipitators furnish *super-clean* air to the Proctor-Schwartz dryers shown above. Costly handling and rejects are minimized . . . even pastel colors are safe from soiling. Providing highest cleaning efficiency—from smoke to largest air-borne material—the Electro-MATIC'S self-cleaning feature and automatic operation also eliminate *shut-downs* and reduce *man-hours* required by ordinary manual maintenance.

AAF filters and precipitators have solved many costly production problems for the textile industry. If you have a process that may be improved by *super-clean* air, call your nearby AAF representative. The company's thirty years experience and complete line of air cleaning products assure you of a practical solution.

AAF **American Air Filter** COMPANY, INC.

275 Central Avenue, Louisville 8, Kentucky • In Canada: Darling Bros., Ltd., Montreal, P. Q.

"STANDARD" recommends STANDARDS*

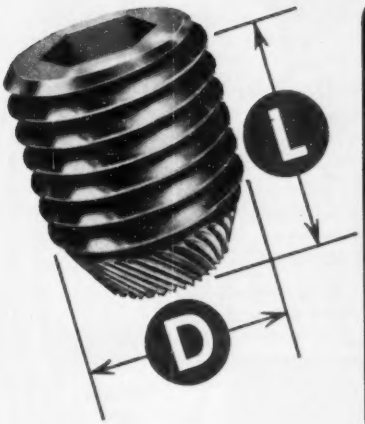
UNBRAKO®

SELF-LOCKING SOCKET SET SCREWS (WITH KNURLED CUP POINT)

STANDARD SIZES

Sizes preceded by asterisk (*) available in both National Coarse and National Fine Threads

Class 3 fit is an "UNBRAKO" standard



The unique, counter-clockwise *knurls* on the UNBRAKO Cup Point make these screws *self-locking*, prevent "creep" and subsequent loosening. And, UNBRAKO Set Screws with the Knurled Cup Point "stay put" even in poorly tapped holes — an important factor in reducing machinery stoppage and production losses.

★ **One of a series listing *Standard* UNBRAKO Socket Screw Products sold by your local UNBRAKO Distributor. If you want reprints of this and other advertisements in the series, ask for them on your business letterhead.**

D Diameter	Threads per inch NC	Threads per inch NF	L Overall Length	Price per 100	Quantity per box
#4 (.112")	40	48	* 1/8	3.95	100
	40	48	* 3/16	4.00	100
	40	48	* 1/4	4.05	100
	40	48	* 5/16	4.10	100
	40	48	* 3/8	4.20	100
	40		7/16	4.40	100
	40		1/2	4.70	100
	40		5/8	5.00	100
#5 (.125")	40	44	* 1/8	4.00	100
	40	44	* 3/16	4.05	100
	40	44	* 1/4	4.10	100
	40		5/16	4.15	100
	40		3/8	4.25	100
	40		7/16	4.45	100
	40		1/2	4.75	100
	40		5/8	5.05	100
	40		3/4	5.35	100
#6 (.138")	32	40	* 1/8	4.05	100
	32	40	* 3/16	4.10	100
	32	40	* 1/4	4.15	100
	32	40	* 5/16	4.20	100
	32	40	* 3/8	4.30	100
	32		7/16	4.50	100
	32		1/2	4.80	100
	32		5/8	5.10	100
	32		3/4	5.40	100
	32		7/8	5.70	100
	32		1	6.00	100
#8 (.164")	32	36	* 1/8	4.10	100
	32	36	* 3/16	4.15	100
	32	36	* 1/4	4.20	100
	32	36	* 5/16	4.25	100
	32	36	* 3/8	4.35	100
	32		7/16	4.55	100
	32	36	* 1/2	4.85	100
	32		5/8	5.15	100
	32		3/4	5.45	100
	32		7/8	5.75	100
	32		1	6.05	100
#10 (.190")	24	32	* 3/16	4.20	100
	24	32	* 1/4	4.25	100
	24	32	* 5/16	4.30	100
	24	32	* 3/8	4.40	100
	24	32	* 7/16	4.60	100
	24	32	* 1/2	4.90	100
	24	32	* 5/8	5.20	100
	24	32	* 3/4	5.50	100
	24		7/8	5.80	100
	24	32	*1	6.10	100
	24	32	*1 1/4	6.65	100
1/4 (.250")	20	28	* 3/16	4.30	100
	20	28	* 1/4	4.35	100
	20	28	* 5/16	4.40	100
	20	28	* 3/8	4.50	100
	20	28	* 7/16	4.70	100
	20	28	* 1/2	5.00	100
	20	28	* 5/8	5.35	100
	20	28	* 3/4	5.70	100
	20		7/8	6.05	100
	20	28	*1	6.40	100
	20	28	*1 1/8	7.10	100
	20		1 1/2	7.80	100
	20		1 3/4	8.50	100
	20		2	9.70	100
5/16 (.3125")	18	24	* 1/4	4.45	100
	18	24	* 5/16	4.50	100
	18	24	* 3/8	4.60	100
	18	24	* 7/16	4.80	100
	18	24	* 1/2	5.10	100
	18	24	* 5/8	5.50	100
	18	24	* 3/4	6.00	100
	18		7/8	6.50	100
	18	24	*1	7.00	100
	18	24	*1 1/4	7.60	100

D Diameter	Threads per inch NC	Threads per inch NF	L Overall Length	Price per 100	Quantity per box
5/16 (.3125")	18		1 1/2	8.40	100
	18		1 3/4	9.20	100
	18		2	10.50	100
3/8 (.375")	16	24	* 1/4	4.55	100
	16	24	* 5/16	4.60	100
	16	24	* 3/8	4.70	100
	16	24	* 7/16	4.90	100
	16	24	* 1/2	5.20	100
	16	24	* 5/8	5.60	100
	16	24	* 3/4	6.20	100
	16		7/8	6.80	100
	16	24	*1	7.40	100
	16	24	*1 1/4	8.20	100
	16		1 1/2	9.20	100
	16		1 3/4	10.50	100
	16		2	12.50	100
	16		2 1/2	14.50	100
7/16 (.4375")	14	20	* 3/8	5.90	100
	14	20	* 7/16	6.10	100
	14	20	* 1/2	6.40	100
	14		5/8	6.80	100
	14		3/4	7.40	100
	14		7/8	8.00	100
	14		1	8.70	100
	14		1 1/8	9.50	100
	14		1 1/2	11.00	100
	14		1 3/4	12.50	100
	14		2	14.00	50
	14		2 1/2	16.50	50
1/2 (.500")	13		3/8	6.90	100
	13		7/16	7.10	100
	13	20	* 1/2	7.40	100
	13	20	* 5/8	7.80	100
	13	20	* 3/4	8.40	100
	13		7/8	9.00	100
	13	20	*1	9.70	100
	13		1 1/8	10.50	100
	13		1 1/2	12.00	100
	13		1 3/4	13.50	50
	13		2	15.00	50
	13		2 1/2	17.50	50
	13		3	20.00	50
5/8 (.625")	11		1/2	9.90	100
	11	18	* 5/8	10.30	50
	11		3/4	10.90	50
	11		7/8	11.50	50
	11	18	*1	12.50	50
	11		1 1/4	13.50	50
	11		1 1/2	14.50	50
3/4 (.750")	10		5/8	12.80	50
	10		3/4	13.40	50
	10		7/8	14.00	50
	10		1	15.00	50
	10		1 1/8	16.00	50
	10		1 1/2	18.00	50
	10		1 3/4	20.00	50
	10		2	23.00	25
	10		2 1/2	27.00	25
	10		3	31.00	25
7/8 (.875")	9		7/8	17.00	25
	9		1	18.00	25
	9		1 1/8	20.00	25
	9		1 1/2	22.00	25
	9		1 3/4	25.00	25
	9		2	29.00	25
	9		2 1/2	34.00	25
	9		3	39.00	25
1 (1.000")	8		1	23.00	25
	8		1 1/4	25.00	25
	8		1 1/2	28.00	25
	8		1 3/4	32.00	25
	8		2	36.00	25
	8		2 1/2	42.00	25
	8		3	48.00	25

Prices subject to change without notice.

LIST PRICES SUBJECT TO DISCOUNT

SPS

STANDARD PRESSED STEEL CO.

Most tapped holes are *standard*, why specify "special" screws? Use UNBRAKO *standards!*

"Tycol Acylkup keeps bearings running cool... does not emulsify with water"

That's right! Tycol Acylkup Grease withstands heavy unit pressures . . . resists emulsification with water. It is easily applied by grease gun or central system.

Further, Tycol Acylkup Grease contains a high grade paraffin base cylinder oil that steps up bearing efficiency and assures increased bearing life. Protection against wear is long-lasting.

Your nearest Tide Water Associated Office will be glad to give you complete information. Call or wire today.

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SEE SUPREME'S SUPER-RIBBER ADVANTAGES

Through A Knitter-Mechanic's Eyes

★ **GIVES MULTI-MACHINE PRODUCTION WITHOUT "KNOCKING ITSELF OUT"**

Up to 56 Yards Per Hour from a *single* machine . . . Max. feeds per diameter inch means profit boosting production without machine-busting rpms. Less wear — less downtime — longer machine life.

★ **SIMPLER TO RUN AND MAINTAIN**

Flip-of-the-finger stitch adjustment . . . Open, easy-to-get-at knitting system . . . Individual, channeled cams —no chance of smash-ups . . . Direct, convenient, man-to-machine controls . . . Foolproof synchronization of dial to cylinder needles . . . Easier for new, inexperienced operators.

★ **HAS QUICKEST, EASIEST, SWITCHOVER FROM PLAIN TO SWISS RIB**

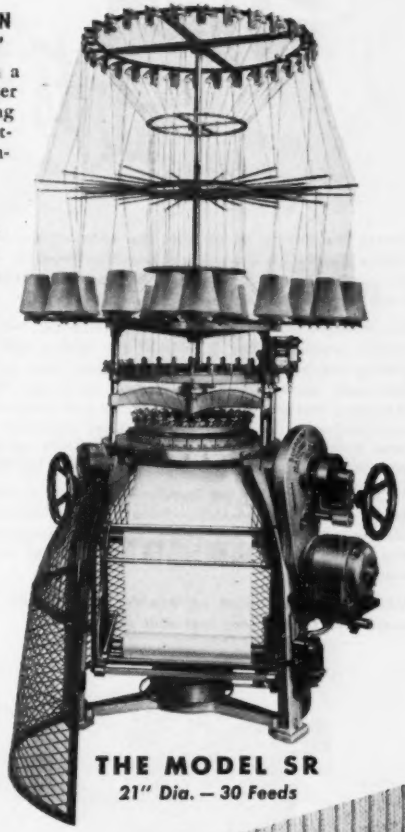
Exclusive, new method eliminates changing cams — gives immediate switch.

★ **KNITS "SUPER ELASTIC" QUALITY RIB CLOTH FROM PRACTICALLY ANY YARN**

Handles wide range and variety of yarns with minimum adjustments. Minimizes damages from weak or slubbed yarns. Uniform, high elasticity gives better size and shape retention. Dogless—no pinch lines.

★ **HAS SUPREME'S PROVEN-IN-THE-MILL FEATURES**

Sturdy, tripod construction . . . Trouble-free design and anti-wear engineering . . . Stationary Yarn Stand . . . Revolving, floating take-up and roll-up . . . Rugged, smooth-running unit motor drive. Patented multi-disc clutch . . . Starts easy . . . Stops fast.



THE MODEL SR

21" Dia. — 30 Feeds

The Supreme Model SR is available in a complete range of sizes from 7"— 10 feeds to 30"— 84 feeds. For further details, write for free folder.

SUPREME

KNITTING MACHINE CO., INC.

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Southern Representative and Showroom:
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Tricot at its best!

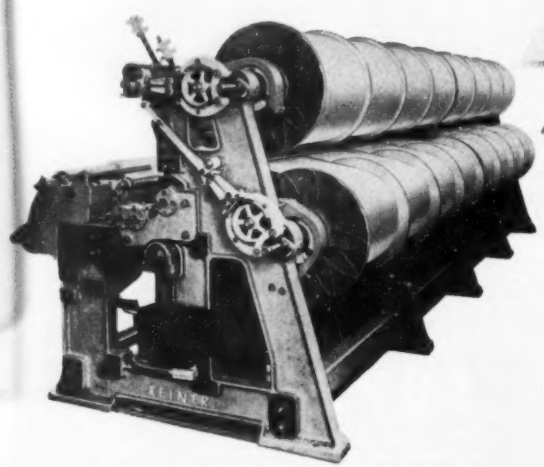
Among the quality tricot mills, the name of Blue Ridge Textile Co., Inc. is a prominent one. Its record for quality, creativeness and versatility is known throughout the trade. Its fabric creations are tricot at its best.

The management of the Blue Ridge Textile Co., Inc. are careful planners. They know that top quality and versatility require equipment that guarantees them exactly that—and more. They rely largely on Reiner Tricot Machines, Warpers and Creels for the fine fabrics they need and want to satisfy discriminating customers who have become aware of the beauty, wearability and other practical features of tricot—the fabric with a big future.

To those striving for top quality—the answer is simple: Reiner warp knit machines—Tricot, Simplex, Raschel—plus Reiner Warpers and Creels. They have earned their mill reputation as profit building teams for all around excellence.

Quality Fabrics depend on Quality Machines. For that reason the trade's very best mills use Reiners.

Photos Courtesy William Winkler, Inc.
Mills: Blue Ridge Textile Co., Inc.



Available: 2 and 3 bar machines, with 2 bar machines convertible to 3 bar use and vice versa—long needles for coarse gauge fabrics—knitting widths 168" and 84"—all gauges—automatic oil feed lines throughout—pattern wheel or chain link drive—positive cloth take-up—and other features.

Write for our fully illustrated catalogs.

ROBERT REINER
INCORPORATED
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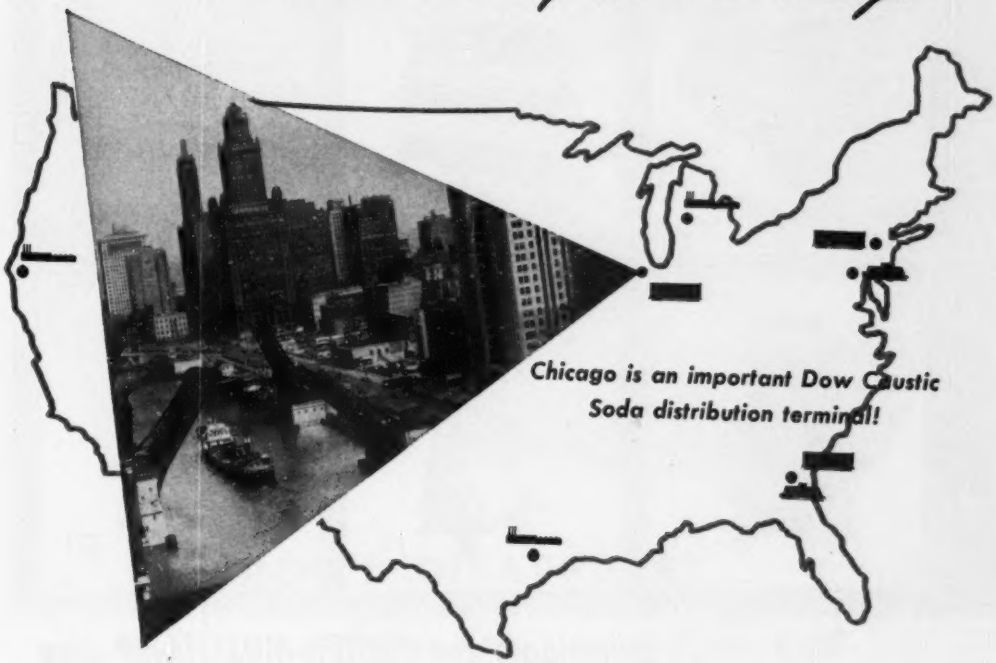
From New York call Longacre 4-6882

How close are you to Chicago?



Wherever you are located . . . you can be assured of fast, dependable delivery of Dow Caustic Soda! Caustic Soda Solid, Flake and Ground Flake are shipped from terminals in Chicago, Illinois, Port Newark, New Jersey, and Charleston, S. C. Dow maintains Caustic Soda Solution bulk tank distributing terminals in Carteret, New Jersey and Charleston, South Carolina. By ship, rail and barge Dow Caustic Soda production is shipped into these terminals from three large plants—in Michigan, Texas and California. Take advantage of Dow's distribution facilities . . . and receive dependable caustic soda delivery!

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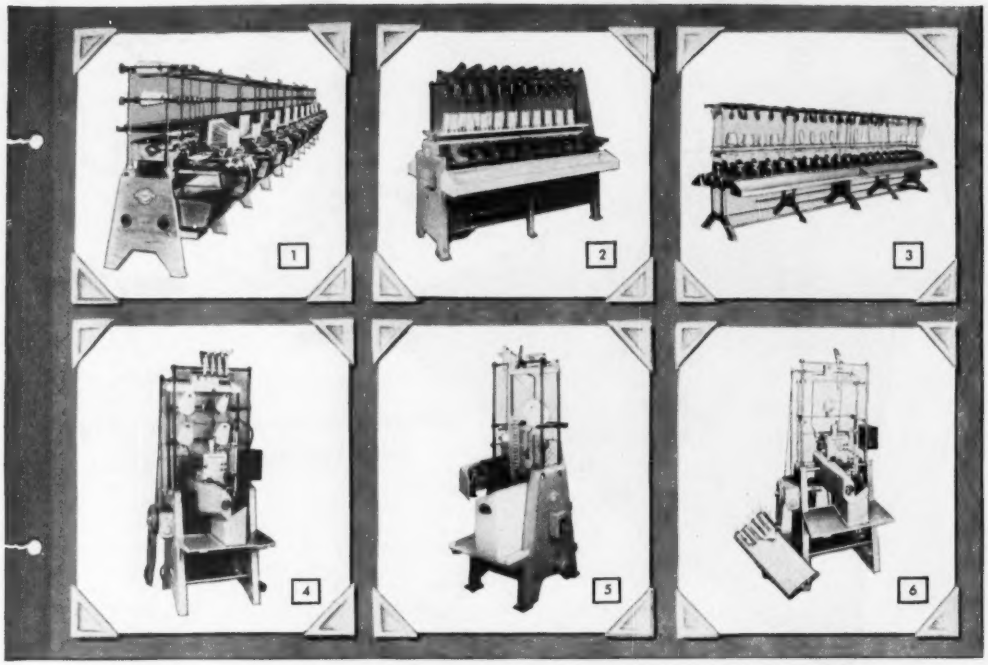
Before You Order Filling, Quill, Braider Bobbin or Thread Winders



. . . Investigate the FOSTER-MUSCHAMP Line

(Made to American Standards)

1. AUTOFILL. A flexible, automatic winder for cotton, wool, synthetics and other fibers, it will wind any type filling bobbin, tube or quill from 3" to 12" at speeds up to 6,000 r.p.m. and in either direction. Supplied in gangs of 4-40 spindles, each 4-spindle unit has an individual automatic control, bunch builder, diameter control-mechanism (eliminates builder wheel), traverse cam, layer-locking device and bobbin-length sizing mechanism. On average counts, up to 160 spindles can be tended by one operator.

2. FILLWINDER. A semi-automatic individual-spindle, high speed filling winder built in units of 20 spindles. Supplied with or without spindles and bunch builders. Equipped with new type three-speed V-belt drive which gives three ranges of speeds within 2,000-6,000 r.p.m. Slow start. New 6-point cam makes possible lower cam speeds and provides positive layer-locking to reduce sloughing while weaving. Five standard traverses from $1\frac{3}{16}$" to 2". Wind ratio adjustable to $5\frac{1}{2}$, 7, 11, or 22. Bobbin length can be varied from 6".9$\frac{1}{2}$". Creels available to wind overend from cones, cheeses or bobbins, or by unwinding skeins.

3. SUPERFILL. A high speed, non-automatic, single spindle cop winder for producing coreless filling yarn package. Winds cotton, linen, spun rayon, blends, jute and wool in both fine and coarse counts at speeds over 500 ft. per min. Superfill packages are used in non-automatic looms and in automatic shuttle-changing looms and contain 2-3 times as much yarn as is normal on direct-spun filling bobbins. Winds on a bare spindle or a cop bottom base for regular bobbin-type shuttle. Built in units of 20, 40 and 60 spindles with each spindle a complete unit. Various types of supply equipment permit a variety of supply packages. Package diameter adjustable up to $1\frac{5}{16}$" and length up to 10".

4. AUTO-BRAID. A fully automatic machine for winding braider bobbins with traverses from $\frac{13}{16}$" to $5\frac{1}{2}$" and diameters up to 2", and with spindle speeds up to 5,000 r.p.m. Self-contained single spindle type winder heads with adjustable gainer drive. Motor driven — 1/10 h.p. per spindle. Single or multi-end winding. Quick acting stop motion. Automatic yarn measuring device with visual graduated scale. Adjustable magazine which holds 20 average size bobbins per spindle.

5. AUTO-QUILL. A fully automatic machine for winding 1 to 4 ends on stick quills with traverses from $\frac{13}{16}$" to $5\frac{1}{2}$" and with straight or tapered ends at speeds up to 2,500 r.p.m. — flange quills up to 5,000 r.p.m. Adjustable magazine holds 40 average size quills. Instantaneous stop motion. Yarn measuring device and visual scales for reading traverse length and yarn length. Motor driven — 1/10 h.p. per spindle.

6. AUTO-THREAD. A fully automatic machine for winding single end sewing thread to spools with traverses from $\frac{13}{16}$" to $5\frac{1}{2}$" and with maximum diameter of 2". Motor driven — 1/10 h.p. per spindle. Quick acting stop motion. Winding heads of self-contained, single spindle type with adjustable gainer drive. Yarn measuring device with visual graduated scale. Adjustable magazine holds 30 average size tubes. Speeds up to 2,500 r.p.m. Separate bulletins describing each of these machines on request.

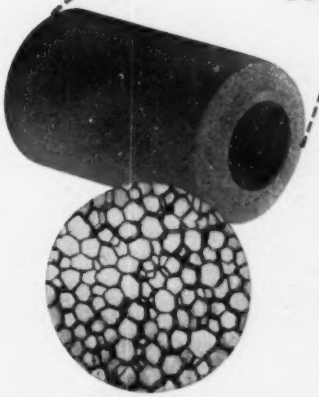
FOSTER F MUSCHAMP

FOSTER MACHINE COMPANY
Westfield, Mass., U. S. A.

Southern Office, Johnston Bldg., Charlotte, N. C.; Canadian Representative, Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que.; European Representative, Muschamp Taylor Limited, Manchester, England.

EYEBROWS DISAPPEAR

when you use this cot



Here's why cork cots won't eyebrow. Millions of tiny cork cells like these (here magnified 1200 times) give cork cots their superior friction. As the yarn passes under the cot, these cells act like tiny suction cups to carry loose fibers well back under the clearer board where they cannot eyebrow and fall into the yarn.

Eyebrows don't have a chance to form when you use Armstrong's Cork Cots. These cork cots have a high-friction surface that continually pushes loose fibers well back under the clearer board out of the way. Many mills report to us that these covers not only prevent eyebrows but reduce clearer waste as much as 50%.

Most mill men agree that cork provides one of the finest drafting surfaces known. They know that Armstrong's Cork Cots have the high friction needed to hold a firm grip on any fiber. Cork drafts out strong, uniform yarn on even the finest work.

Made in one piece and preglued at our factory, Armstrong's Cork Cots are easy to install and maintain. They slip on the roll in one simple operation. An occasional buffing keeps them spinning like new for 2 or 3 years on most counts and types of yarn.

For top-quality spinning with complete freedom from eyebrowing, you just can't beat these cots. We'll be glad to put them to the test in your own mill. Call your Armstrong representative today or write Armstrong Cork Company, Textile Products Department, 3608 Arch St., Lancaster, Pennsylvania. Armstrong's Cots are available for export.

ARMSTRONG'S CORK COTS

for high-quality spinning . . . at low cost

Our severest critics are right in our own plant!

CONTRASTING with the constant pressure for production in other departments at Warner & Swasey is the calm, methodical work of one group of our men. These men are our severest critics—our final inspectors.

By the time an assembled Pin Drafter reaches one of these final inspectors, its individual parts have already passed 6,000 inspections!

But that is not enough! The final inspector carefully rechecks the completed machine—*proves* beyond doubt that it is ready to turn out the high quality work for which it is designed. Only then does he *sign his name* to a written report certifying that the Pin Drafter he passes is as perfect as human skill can make it.

Like our other departments, "final inspection" is working day and night to get machines to our shipping platform on schedule. But despite stepped-up production and urgent delivery dates, *no* machine leaves our plant until it meets the long-established Warner & Swasey standards for accuracy and dependability.

BRANCH OFFICES:
Rivulet Mill, Uxbridge, Mass.
6910 Market Street, Philadelphia, Pa.
Candler Building, Atlanta, Ga.

WARNER & SWASEY
TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASEY

Dyeing the New Synthetic Fibres

AN INVITATION FROM CIBA RESEARCH

The immediate need for dyers to know more about the special dyestuffs and procedural requirements peculiar to the use of these new synthetic fibres by the textile industry has prompted Ciba Research to extend its activities in this direction.

Some of our research has achieved advanced results . . . other phases are preliminary and formative . . . but all of our present knowledge is available for your use. If you will write us about your particular problems our technical service staff will immediately provide you with up-to-date information to the full extent of our present research knowledge.

CIBA

CIBA COMPANY INC.

627 GREENWICH STREET, NEW YORK 14, N. Y.

Boston Chicago Charlotte
Providence San Francisco Philadelphia

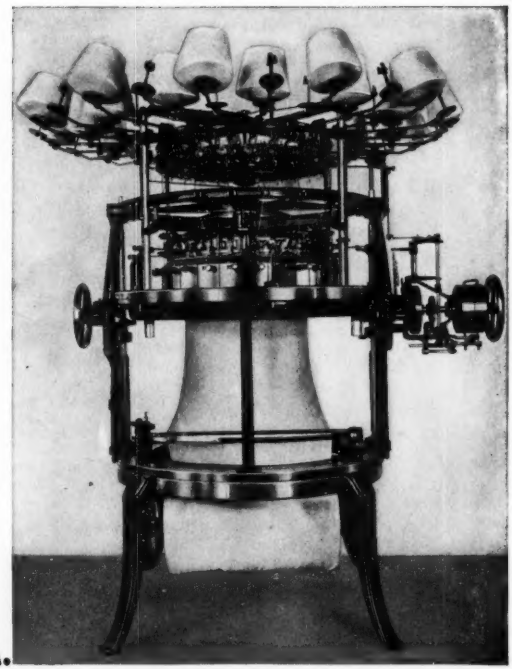
TOP PERFORMANCE IN THESE LINES

with

WILDMAN INTERLOCK MACHINE

Adaptable

You can easily see why this 30" Interlock Machine rates tops in adaptability and versatility. For the exceptionally wide fabric or standard width — here is top performance, top efficiency . . . Popular sizes 26" and 30". Also other sizes from 15" up, furnished in all cuts up to 24 needles per inch.



WILDMAN MFG. CO., NORRISTOWN, PA.

Finishing headaches?

Quick cure!

Some finishers take a pill to get rid of their on-the-job headaches.

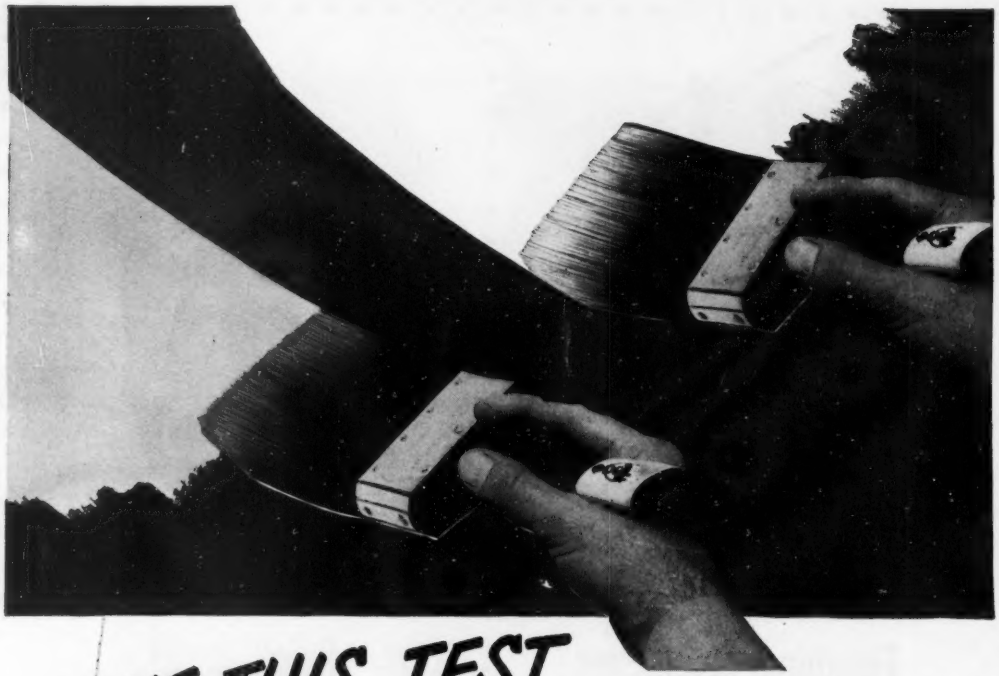
The smart ones get in touch with Monsanto for Catalyst AC, for in hundreds of finishing plants, millions and millions of yards of goods have been resin-treated with the help of Catalyst AC. Catalyst AC cures the resin as fast or faster than other catalysts. In a customer test on an 80 x 80 cotton fabric, for example, we found resin retention fully comparable to that obtained with other catalysts, but the hand was softer and wrinkle-resistance superior. Here are the actual data:

% Urea Resin Applied	Catalyst	% Resin Retention	Stiffness (Gurley)	Wrinkle-Resistance
8%	AC	85%	4.7	137°
8%	DAP	86%	4.9	131°
8%	Competitive Catalyst	84%	5.0	130°

In addition to these *performance* advantages, think of the advantages in your mill. With Catalyst AC, as you know, a urea-formaldehyde bath (36% solids) is stable for 24 or more hours—not only a convenience, but in some mills a real money-saving plus. Of course Catalyst AC is completely compatible with the usual softeners and penetrants.

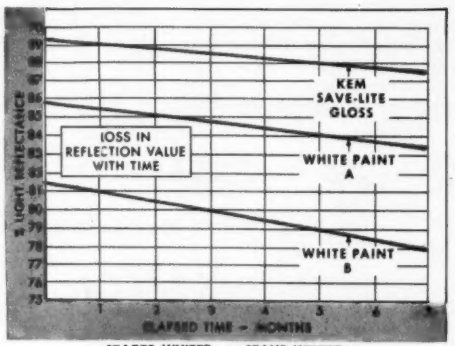
For more information or technical help at your plant, please write MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept., Everett Station, Boston 49, Mass.

MONSANTO
CHEMICALS—PLASTICS
SERVING INDUSTRY...WHICH SERVES MANKIND



MAKE THIS TEST

before you paint your plant!



STARTS WHITER . . . STAYS WHITER!

Note how the whiteness, or reflective value, of Save-Lite *starts* higher than conventional finishes when first applied, and *continues* higher, as time goes on. This means *longer* intervals before repainting is required.

Compare KEM SAVE-LITE with ordinary whites

SEE why it stays cleaner—longer!

See for yourself the difference there can be in the whiteness of "white" finishes . . . even when they are first applied! Make a side-by-side comparison of KEM SAVE-LITE Mill White against conventional white finishes on any wall surface in your plant.

You can see the difference, from the start, in gleaming, brilliant whiteness...a difference because of the *controlled,* light-reflective properties that are designed into SAVE-LITE Mill White Finishes.

KEM SAVE-LITE *starts* whiter . . . KEM SAVE-LITE *stays* whiter, as the actual light reflectometer measurements in the comparative chart show. You'll find these same properties, too, enable it to hide better and cover farther! Call your Sherwin-Williams representative today for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, O. (Division Offices, Charlotte, N. C. and Boston, Mass.)

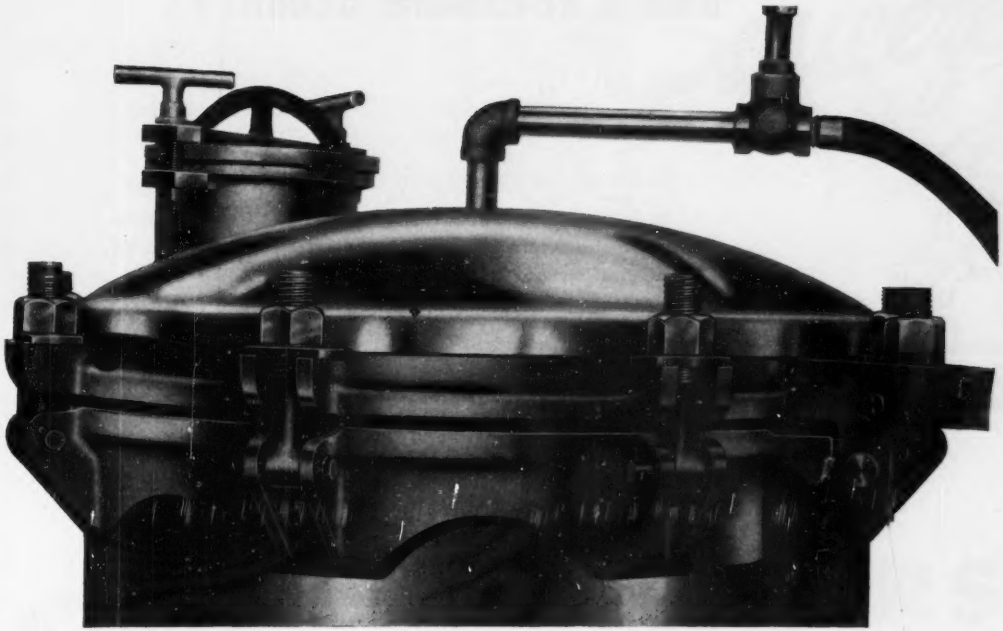
SHERWIN-WILLIAMS

INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES

MILL VILLAGE PAINTS

Do the Job Better . . .
WITH BURLINGTON
Package Dyeing Equipment



Top of a Burlington Kier—Note Heavy Stainless Steel Construction

BURLINGTON ENGINEERING COMPANY fabricates stainless steel dyeing equipment for all types of textile operations. The most modern advancements, as well as many exclusive BURLINGTON features, are found in our equipment. We invite you to visit our plant and follow our construction from start to finish. See exactly why BURLINGTON-built machines will do a better job for you.

BURLINGTON'S superior dye house products include BECKS, PACKAGE and BEAM MACHINES, TRUCKS, and other machinery. BURLINGTON ENGINEERING COMPANY also fabricates products of stainless steel for any textile use including SPRINGS and TUBES tailored to your specifications. Consult us for textile needs.

Burlington ENGINEERING COMPANY, INC.

TELEPHONE 6-4478, BURLINGTON, N.C. GRAHAM, N.C. ■

What air conditioning has a southern accent?

What air conditioning talks your language? In prompt installation? In short-haul costs? In on-the-spot service?

We think it's Carrier. For instance:

In Atlanta, Georgia, we've got the largest sheet metal shop facilities in the Southeast. It's a central, permanent location for fabrication of metals of all gauges.

In Anderson, South Carolina, we have a shop for fabrication of pipe and pipe specialties.

Between these two shops we can handle any installation of air conditioning or ventilating. Also fabrication of metal and piping specialties of any nature.

And we have the service to go along with it. Field installations and construction projects involving sheet metal and piping have trained supervision.

And, oh yes. Rail and truck facilities are available for the handling of prefabricated materials direct to the job sites throughout the Southeast.

Write for booklet, Southeastern Shop Facilities. *Carrier Corporation, Syracuse 1, N. Y.*

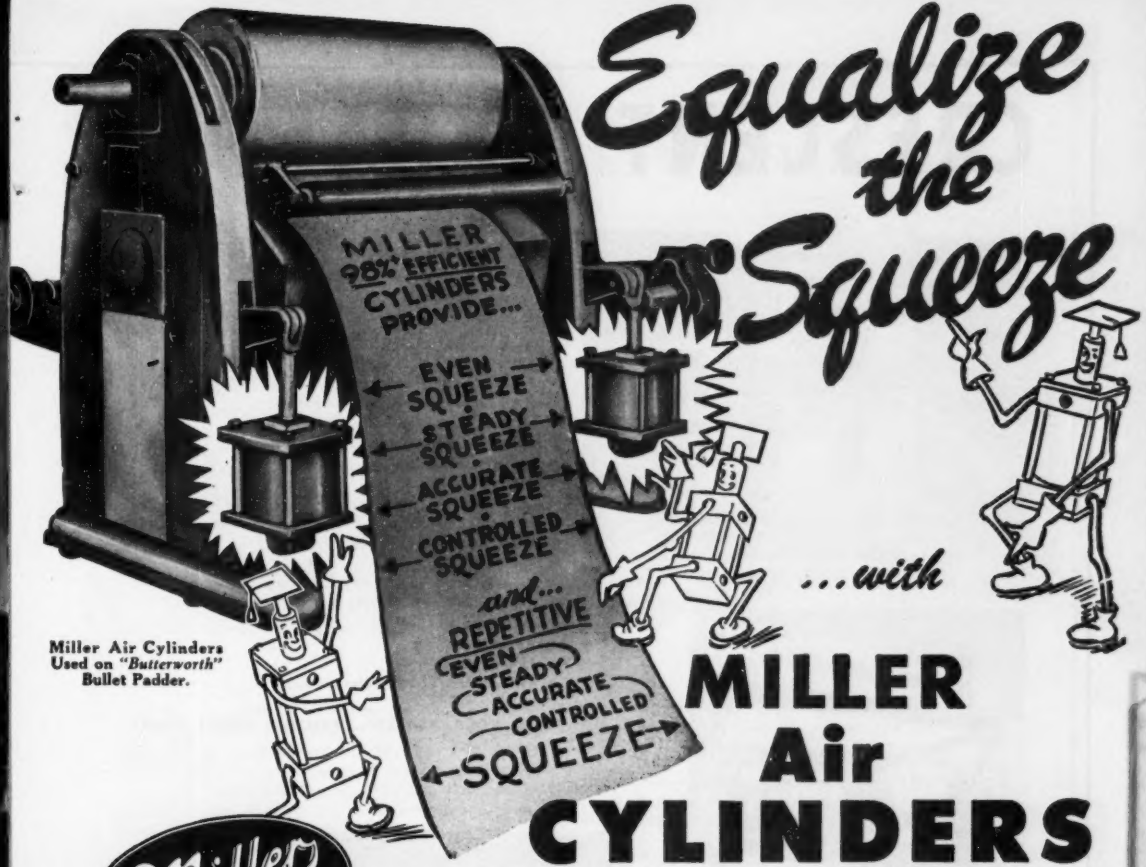
Carrier

AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING

Direct arc, carbon electrode, argon shielded arc and spot welding available. Also numerous power and hand driven machines are used for efficient assembly operations.

Modern and efficient power tools available for cutting, forming and assembly work. Power shears, brakes and rolls of varied capacity. High-speed punch presses.

Equalize the Squeeze



Miller Air Cylinders Used on *"Butterworth"* Bullet Padder.

...with

MILLER Air CYLINDERS

Miller Air Cylinders economically provide the steady, even, repetitive "squeeze" so essential for the pressure rolls of textile machinery and equipment.

Precision-accurate adjustment and repetitive application of pressure to always the exact degree desired are assured by the high-efficiency, leakproof operation of these cylinders and the extremely low "break-away" pressures required to obtain smooth piston movement. Even when the operating plant air pressure is again applied after days of machine inactivity, piston movement is instantaneous—smooth- -chatter-free . . . because the Miller *self-regulating, wear-compensating* piston and rod seals *will not "freeze"* to prevent piston movement or to cause jumpy, jerky action. These seals never need adjustment, have no provision for adjustment, therefore *cannot be over-adjusted.* The Miller rod seal operates against the Miller scratch-resistant, rustproof hard chrome plated piston rod; the Miller piston seal operates against the precision-honed, highly polished finish of the Miller rustproof hard brass cylinder barrel. No wonder these seals still give leakproof, efficient service after millions of strokes. No wonder Miller Air Cylinders are completely free from the rust conditions common to ordinary cylinders.

In addition, *dirt wipers* at rod ends keep out all dirt and lint, and *solid steel* heads, caps, and mountings eliminate costly, dangerous breakage.

Write for illustrated cylinder bulletins A-105 and H-104

COMPLETE MILLER CYLINDER LINE INCLUDES: AIR CYLINDERS, 1½" to 20" BORES, 200 PSI OPERATION; LOW PRESSURE HYDRAULIC CYLINDERS, 1½" TO 6" BORES FOR 500 PSI OPERATION, 8" TO 14" BORES FOR 250 PSI; HIGH PRESSURE HYDRAULIC CYLINDERS, 1½" TO 12" BORES, 2000-3000 PSI OPERATION. ALL MOUNTING STYLES AVAILABLE.

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MILLER MOTOR COMPANY

2042 N. Hawthorne — **Melrose Park, Ill.**

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Sales and Service from coast to coast

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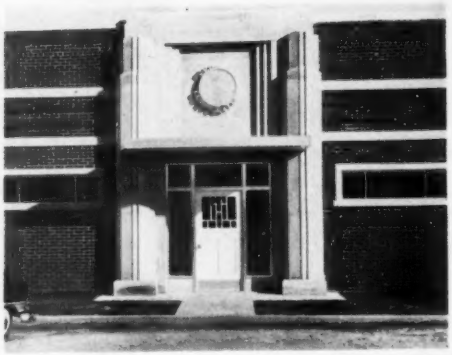

1.

CRESCENT OFFERS YOU

- *8 convenient warehouses*
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- *2 Engineering Staffs*
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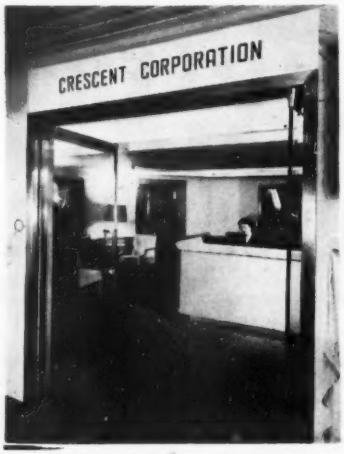
CALL YOUR NEAREST CRESCENT OFFICE NOW!



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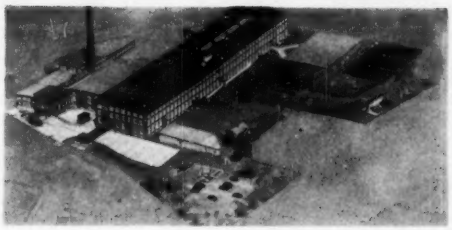

4.

3.

1. MAIN ENTRANCE of Used Textile Machinery Headquarters for the Textile South.

2. EXPORT OFFICE in New York, which probably exports more used textile machinery than anyone else in the field.

3. FRONT ST. WAREHOUSE in Fall River, housing six floors crammed with machinery.

4. MAIN OFFICE at Fall River, including executive offices, large machine shop and warehouse.

SERVICE TO TEXTILE INDUSTRY!

Crescent Corporation has just formally opened its huge new Southern headquarters at Spartanburg, S. C. . . . in the heart of the Textile South. Here is the Used Textile Machinery Capital of the South . . . containing more than 75,000 square feet of carefully planned space.

The opening of these new quarters is another important phase of Crescent's expansion program. It enables us to expand present machinery services and extend new and improved uses.

As one of the world's largest used textile machinery dealers, Crescent offers a huge inventory of many different kinds of used textile and finishing machinery . . . ready to operate . . . in eight convenient warehouse locations.

Requests for machinery are quickly speeded by phone or direct teletype to our offices at Spartanburg . . . export office at New York . . . and main office in Fall River. Our own experienced staff of heavy-duty riggers, using a large truck fleet, speed the delivery or removal of machinery.

Backed by two engineering staffs and three completely-equipped machine shops with a large stock of parts, we are able to adapt any machinery purchased to your own specifications.

In addition to repairing, rebuilding and modernizing textile machinery, Crescent now offers the same precision skill and unmatched experience in our Fall River machine shop for the building of new textile and finishing machinery.

And we also carry a complete stock of mill supplies . . . new or used national brands.

All these factors — plus our engineering assistance in plant layout, production surveys, appraisals, liquidations and the like—add up to why so many textile men confidently say, "Look to Crescent first, and be sure!"

TEXTILE MACHINERY – MACHINE TOOLS – ELECTRICAL EQUIPMENT

CRESCENT CORPORATION

SALES
PURCHASES

EDWARD J. ZISKIND, President
ABRAHAM ZISKIND, Treasurer

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You've Taught Us a Lot in *84 years...*

From our daily contacts with you and hundreds of other mill men, we have accumulated an excellent understanding of your problems.

We know that mills welcome assistance that speeds up production, makes tough jobs easier, and increases efficiency.

That's why we invite you to talk over your problems with a Howard Brothers representative. Your dealing with him will be confidential in every way . . . and of course, there is no obligation on your part.

Contact our nearest plant or branch office now.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

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TUFFER CARD CLOTHING — *IMPROVES PRODUCTION ALL ALONG THE LINE*

Beware of Excess Resins, Caution Avisco Technicians

May act like "million razor blades" on fabrics

Reports from the field indicate that improper resination of fabrics to impart wrinkle-resistant properties is creating some dissatisfaction with the wearing qualities of certain rayon fabrics, according to Avisco's Converting Relations Department.

To cite two extreme examples, the department was recently asked to test a pair of pedal pushers which had lasted one day, and a pair of slacks which had worn through during a drive to Florida. Both garments were made of good fabrics. The fault was found to be improper application of resins, which had ended as deposits on the surface instead of impregnating the fibers. The result might be compared to the addition to the surface of a million little razor blades that sharply reduce resistance to abrasion.

Boardy Finishes

This situation is a recent development. It is felt that one of the major reasons is the demand for stiff, boardy finishes on the part of some cutters. The Stoll Wear Tester shows clearly what this type of finish can lead to. In one instance, one resinated fabric wore through after only 169 flex cycles, yet when properly finished that same fabric yielded more than 2,300 flex cycles. In another case the lining of a jacket broke down after only 63 flex cycles. The same fabric, properly finished, stood up under 903.

Correct Application

The minimum resin necessary to impart maximum wrinkle-resistance is all that should be used. Some fabrics require less than 7 per cent, others may need as much as 14 per cent. The right amount, correctly applied and cured, will lose little wrinkle-resistance in dry cleaning or the standard wash.

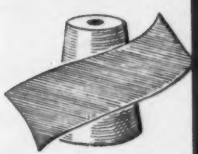
The pH and the temperature of the bath are of vital importance in applying resin finishes. Avisco has found that the pH should not be lower than 6.5 nor higher than 7. 90° F. is the maximum bath temperature recommended. Drying temperature should not exceed 280° F.

Converters and finishers who are not sure whether a particular rayon fabric has been properly resinated are invited to send a sample to Avisco's Converting Relations Department, which will be glad to test it, free of charge. Address: American Viscose Corporation, Converting Relations Department, 350 Fifth Avenue, New York 1, N. Y.

RAYON 20 YEARS AGO

New York, August, 1931—Rayon fabrics are used extensively in the decoration of the new liner, S. S. President Hoover.

New York, August, 1931—The newly introduced rayon warp bedspreads have been well received by the trade and are in active demand.



New York, August, 1931—"Dulest" is the name of the new dull lustre yarn produced by the Viscose Company.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

Just Out!

NEW 36-PAGE EDITION OF

PIPING POINTERS

...a bigger, more helpful handbook for training maintenance workers

You asked for ¼ million copies of the last edition of Piping Pointers. You found it a big help in training beginners and refreshing veterans in your piping crews. The bigger and better edition is just out—changed in appearance but not in purpose. Crane again offers this booklet—to help keep your piping systems at peak efficiency.

Piping Pointers talks facts . . . not theory. Thoroughly covers the fundamentals of good, sound, everyday piping practices . . . in easy-to-grasp, nontechnical language. Its many "how-to-do-it" features are illustrated for easy understanding.

Mistakes in piping installation and maintenance cost more today. Piping Pointers can help your men avoid them. Just ask your Crane Representative for a copy.

PARTIAL INDEX TO PIPING POINTERS

HOW TO choose valves for every service . . . install valves . . . read reducing fittings . . . make up screwed joints . . . assemble flanged joints . . . make up solder joints . . . install pressure regulators . . . use vent and drain valves . . . avoid steam trap trouble . . . save on pipe joints and materials . . . handle piping tools.

plus THE CRANE VALVE SELECTION GUIDE
which saves time and effort in selecting valves for common piping services.

PIPING POINTERS 16-mm SOUND FILM
Free Usage for Group Training
A 30-minute motion picture that dramatizes the fundamental information in the Piping Pointers Manual. Ideal for classroom or plant training groups. Available on request through your local Crane Branch.

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Day or Night

DYE YOUR WORSTED WITH

AHCOQUINONE BLUE AH

AHCOQUINONE BLUE AH becomes a bright greenish-blue shade under artificial light and thus helps to offset any tendency of other dyestuffs in mixtures to show a redness under these conditions. This dyestuff, which is suitable for use by the acid or any chrome dyeing methods, has all the normal fastness properties of the better anthraquinone blues. Use it to keep your combination shades uniform under any lighting conditions.

Ask about AHCOQUINONE BLUE AH for Dyeing to Government Specifications.

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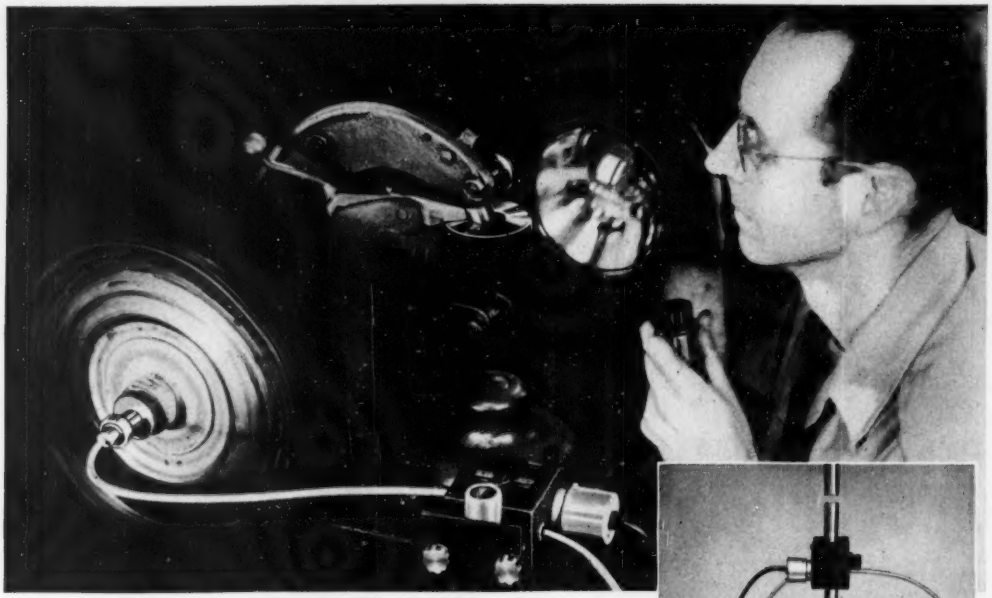
AHCOQUINONE BLUE AH
Meets OG 108 Fastness Requirements and Facilitates Control of Shade Change in Artificial Light



new Synchronizing Contactor
for the **STROBOTAC**® and the **STROBOLUME**

To meet an insistent demand from users of the General Radio stroboscopes for a versatile contactor, by means of which the STROBOTAC or STROBOLUME can be 'fired' from a mechanical contact with any rotating shaft, we announce the new Type 1535-A CONTACTOR.

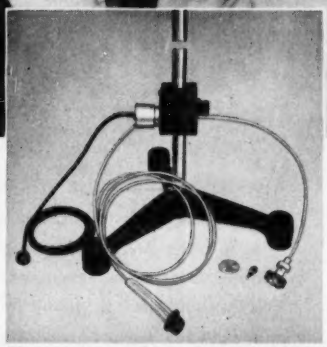
This unit has a powerful magnetic clutch, on the end of an 18-inch flexible shaft, which can be attached to any shaft of magnetic-sensitive material, even while the shaft is rotating.

The rotating clutch in turn drives an electrical contactor in the housing of the assembly. The contactor automatically synchronizes with the rotating shaft. Irrespective of changes in speed, the stroboscope is always in synchronization with the rotating shaft.

Flashes can be timed to occur at any position of the shaft, by either rotating a hand-held knob on the end of an 8-foot flexible cable, or by turning the knob mounted on the body of the contactor. The angular position of the contacts can be set anywhere within 360 degrees, the positioning scale being calibrated every 5 degrees to facilitate resetting.

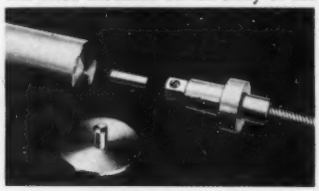
There are six equally spaced contacts in the assembly. They can be connected to give combinations of 1, 2, 3 or 6 equally spaced flashes per shaft revolution.

This magnetic contactor greatly increases the utility of General Radio stroboscopes in industry, providing a simple, reliable and accurate means for timing the stroboscopic flashes to synchronize automatically with any rotating shaft.

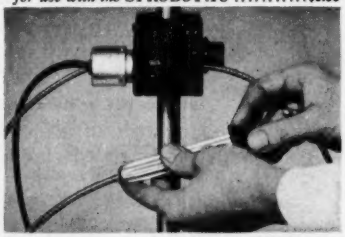


The contactor assembly can be locked in position at any point on a 4-foot upright mounted on a heavy cast-iron base. The range of height adjustment is 6 inches to 4 feet; or the assembly can be removed from the stand and mounted permanently on a machine.

Type 1535-A Contactor **$140.00**
Type 1535-P1 Adaptor Cable
for use with the STROBOTAC **$5.50**



The accessories shown above are supplied with the Contactor. The steel disc in the foreground is used when the magnetic clutch is to be attached to non-magnetic or small shafts. The short rod can be fitted into a hole drilled in the shaft so that the screw-set coupling can be attached to the shaft for permanent or semi-permanent set-ups.



By rotating the knob held in the hand (above) or the knob on the contactor housing, flashes from the stroboscope can be made to occur at any position of the rotating shaft. For resetting purposes the position of the contacts is indicated every 5 degrees on a 360-degree scale.

GENERAL RADIO Company
275 Massachusetts Avenue, Cambridge 39, Mass.
90 West Street NEW YORK 6 920 S. Michigan Ave. CHICAGO 5 1000 N. Seward St. LOS ANGELES 38

Anywhere in Textile America . . .

this *specialist*
in Yarn Carrier
selection
and application
is located nearby

Wherever your mill is situated . . . North, South, Canada, California . . . it's not far from the headquarters of some sales representative of the U S Bobbin & Shuttle Co.

Each U S sales representative is a *specialist* in the selection and application of bobbins, shuttles and other U S products. Each devotes *full time* to helping millmen get top efficiency and economy with yarn carriers in every processing operation, from fiber to fabric.

And every U S representative is backed by a carefully integrated manufacturing and distribution system which is unmatched in the industry.

Every facility, from forest to frame — from logging to looms — is U S owned and controlled — the reason why the U S 93-year reputation for topmost quality can be steadily maintained.

U S is ready, now, to equip your mill with the cost-cutting new designs in yarn carriers you need to beat today's cost squeeze. The U S representative near you will call at your request to discuss your requirements. You'll find that most U S products can be delivered when you want them, without delay.

U S TIMBER PROPERTIES AND ROUGHING MILLS

Selected hardwoods from extensive U S owned timber lands are formed into blanks and conditioned in modern kilns at U S roughing mills.

U S MANUFACTURING PLANTS AND SALES OFFICES

From the rough blanks, bobbins, shuttles and other wooden yarn carriers are manufactured in U S plants located near the centers of textile manufacture, North and South. A sales office operates in each of these plants.

OTHER U S SALES OFFICES AND AGENTS

Conveniently located in all other textile producing areas, U S separate sales offices and agents provide quick service to nearby mills.

PLANT FOR MANUFACTURE OF ACROPAK METAL BOBBINS

Acrometal Products, Inc., a U S subsidiary, produces the ACROPAK Metal Bobbins which are proving the effective answer to bobbin-killing synthetics.

U S BOBBIN & SHUTTLE CO.

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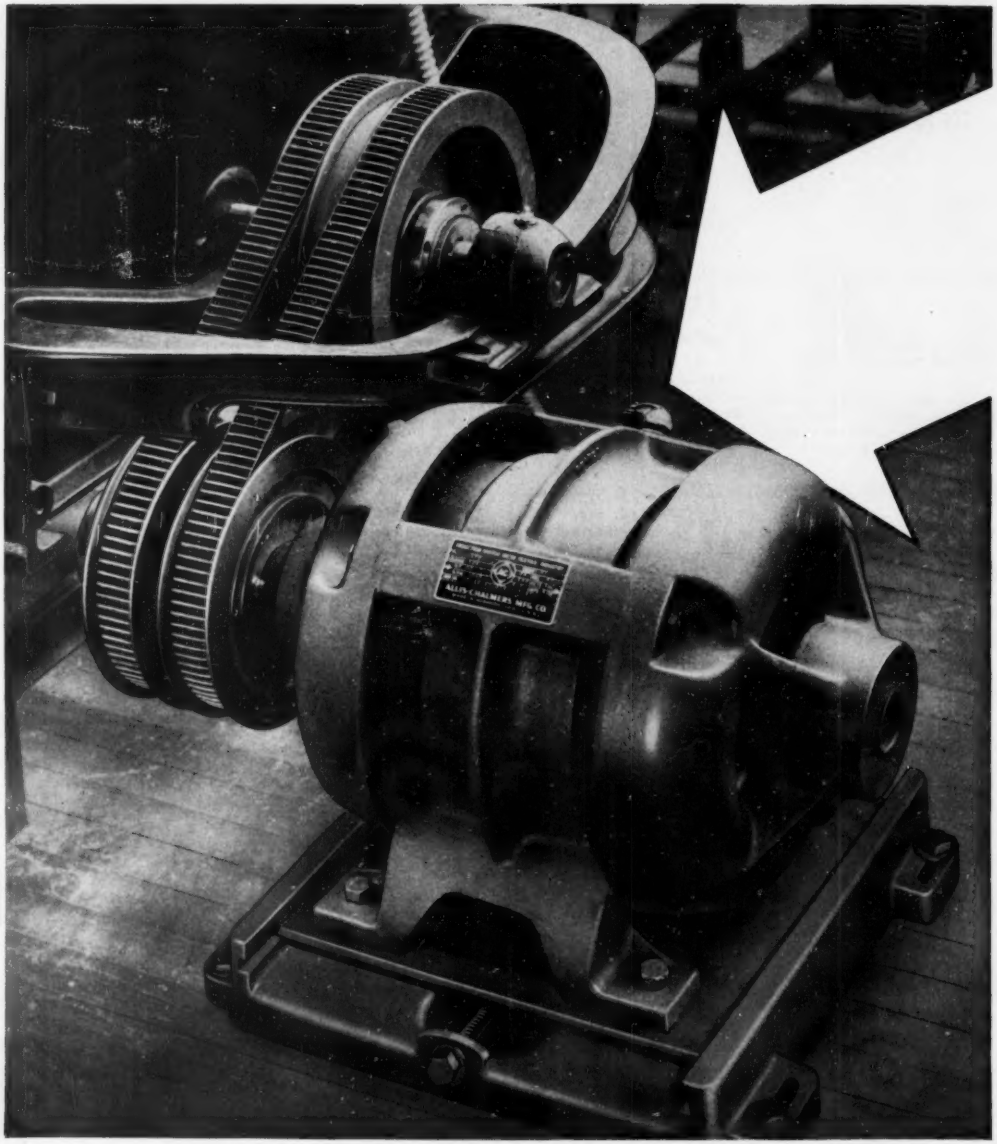
JOHNSON CITY, TENN. • GREENVILLE, S. C. • CHARLOTTE, N. C.

CHICAGO: Albert R. Breon, 80 E. Jackson Blvd. • LOS ANGELES: E. G. Peeles, 1762 W. Vernon Ave. • CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.

LINT IS NO PROBLEM



for This Motor

Quick-Clean TEXTILE MOTOR

Ordinary motors in lint-laden atmospheres have trouble . . . overheating — high maintenance costs — burnouts. *Quick-Clean* motors avoid these expensive troubles because lint and dirt cannot accumulate on or inside the motor.

MATCH QUICK-CLEAN MOTORS WITH ALLIS-CHALMERS STARTERS

Developed for dependable, safe starting of *Quick-Clean* motors. Other controls for all electrical equipment in your plant. For competent applications engineering, see your Allis-Chalmers Authorized Dealer or write District Office.

SEND FOR FREE LITERATURE

Quick-Clean Motors - - -	51B6055
Allis-Chalmers Loom Motor -	51B7111
Texrope Drives - - - -	20B6051
Vari-Pitch Automatic Sheaves -	20B7223
Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment - -	25B6150

QUICK-CLEAN WIDE OPEN DESIGN allows powerful fans to sweep lint and dirt in, out and away with the cooling air. Interior surfaces are smooth and hard. Large air passages are contoured to aid air flow. There is no place where lint and dirt can collect.

Cast Iron Frame

The frame of the *Quick-Clean* motor is rigid cast iron which resists the corrosive action of moist mill atmospheres. Cast iron maintains perfect alignment under all normal operating conditions assuring maximum bearing life and trouble-free operation.

Factory Lubricated Bearings

Bearings are lubricated and sealed at the factory and should need no attention for years. Grease or oil cannot leak from the bearings to soil materials or collect dirt. Lint and dirt cannot enter the bearings.

Get The Facts

Your nearest Allis-Chalmers Authorized Dealer or District Office has complete information on the *Quick-Clean* motor. Or write Allis-Chalmers, Milwaukee 1, Wisconsin for the bulletins shown below. A-3396

Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

COMPLETE SERVICE from power line to machine

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Motor Control

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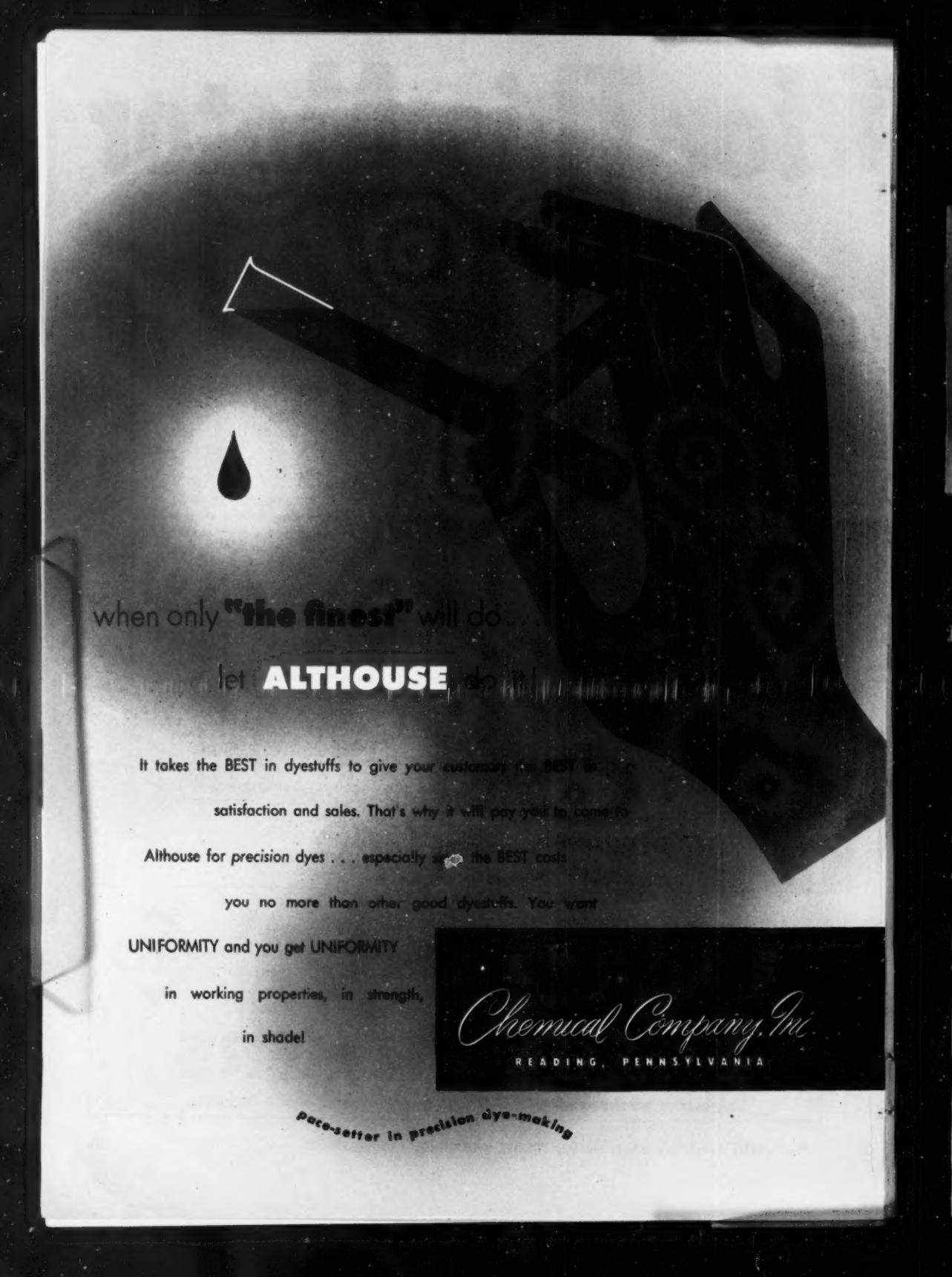
Texrope Drives

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry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let ALTHOUSE do it!
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satisfaction and sales. That's why it will pay you to come to
Althouse for precision dyes . . . especially since the BEST costs
you no more than other good dyestuffs. You want
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in working properties, in strength,
in shade!
Chemical Company, Inc.
READING, PENNSYLVANIA
pace-setter in precision dye-making

"Knitting quality fundamental in building hosiery sales..."

states EARL O'ROURKE, Hosiery Buyer, Scruggs-Vandervoort-Barney, St. Louis

"Style leadership, color selection and ample variety to meet customers' needs are all essential in building a successful hosiery department. Yet none are more fundamental than the quality of the knitting. For knitting quality is the key to lasting customer satisfaction on which a successful operation depends"... says Mr. O'Rourke.

That's why so many leading mills throughout the world always safeguard the quality of their merchandise by standardizing on the use of

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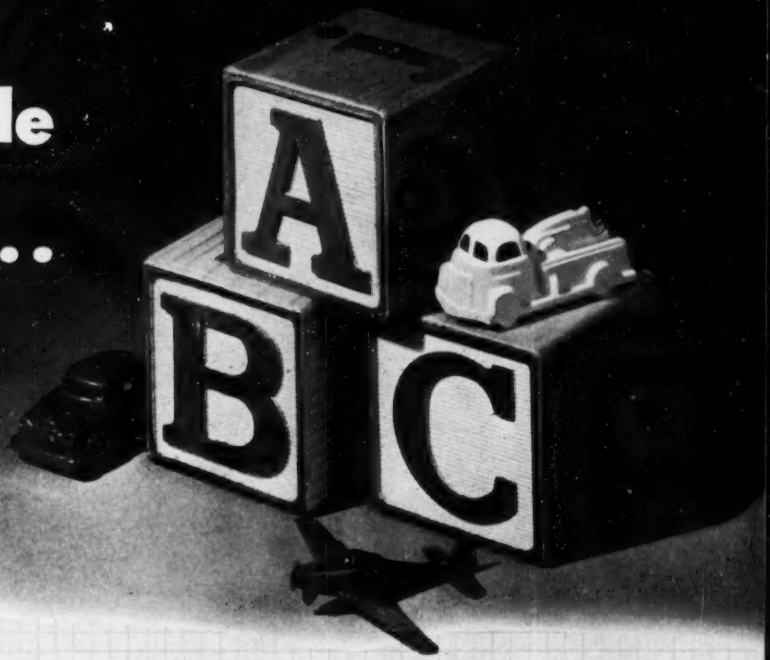
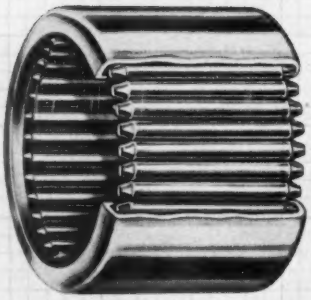
simple as . . .





Torrington Needle Bearings:

A. Simplify design. A hardened shaft to serve as the inner race, a simple bore housing and a Needle Bearing are all you need for efficient anti-friction performance.

B. Simplify machining. No complex housings or shoulders are required—just a straight bore machined to proper dimensions.

C. Simplify assembly. A fast arbor press operation seats the bearing by press fit . . . no spacers or retainers are needed to hold Needle Bearings in position.

Torrington Needle Bearings may well be the answer to *your* design and production problems. Our engineers will be glad to help.

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TORRINGTON *NEEDLE* BEARINGS

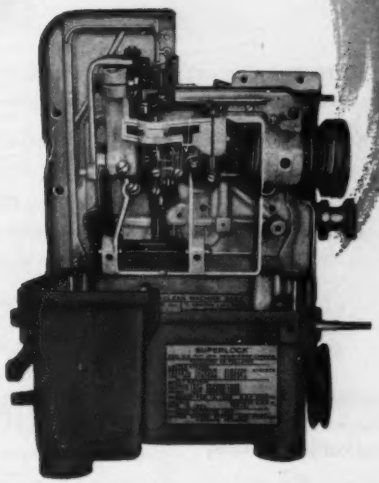
NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • STRAIGHT ROLLER • BALL • NEEDLE ROLLERS

Quick as a flash!

. . . to thread, to operate and to maintain

the W&G "Superlock"

gives you fastest production at lowest over-all cost



For high-speed, *high-quality* overseaming, hemming, edging and serging, you can't beat the W&G "Superlock."

Not only is it one of the fastest machines of its type ever developed—but every detail is designed for *easier* sewing and less down time. Instant accessibility of *all parts* simplifies threading, cleaning and maintenance. And fully automatic lubrication, differential feed control, automatic hem guide control—plus many other time-saving features—permit maximum production with minimum effort and fatigue.

Send coupon below for the complete "Superlock" story.

WILLCOX & GIBBS Sewing Machine Co.

214 West 39th St., New York 18, N.Y.

Gentlemen:

Please send me a copy of your 12-page bulletin No. 828, on the "Superlock" machine.

WILLCOX & GIBBS Sewing Machine Company
214 West 39th St., New York 18, N.Y. Dept. G5

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To users of **CLIMAX Ball Bearing Top Rolls**

here is your

SERVICE KIT

containing complete equipment for:

— buffing

— re-covering

— greasing

BUFFING — Climax Ball Bearing Top Rolls are precision buffed, without disassembling, by a compact attachment which fits standard buffing lathes and can be used for solid rolls as well.

RE-COVERING — Climax Ball Bearing Top Rolls are re-covered on standard cot applying machines, by means of a simple pressure bracket. Re-covering is done without disassembling the roll.

GREASING — Climax Ball Bearing Top Rolls require periodic greasing only at extremely long intervals. The Kit provides a special pressure attachment for greasing the ball bearings thoroughly and uniformly. A supply of Climax grease is included.

Each Service Kit is made up individually to give your Mill just what is needed for the Climax Rolls you have. Further information upon request.

Climax Ball Bearing Top Rolls adopted by

Whitin

MACHINE WORKS

and supplied on Whitin machinery as standard where anti-friction rolls are required. Climax Rolls are available through Whitin Machine Works and all of their agents.

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Sao Paulo, Brazil

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Avenida, Uruguay 55
Mexico, D. F.

For European Service:
Victor Beecroft
54 Boroughgate, Otley, Yorkshire, England

Only **CLIMAX**

among anti-friction rolls, permits INTEGRAL RECOVERING and INTEGRAL BUFFING—WITHOUT DISASSEMBLING.

Climax Ball Bearing Top Rolls are made for

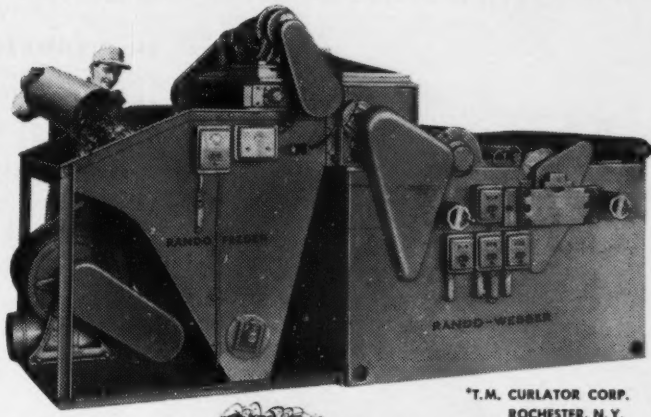
Cotton System Spinning Rolls for all standard and long-draft systems
Cotton System Roving Rolls
American System Worsted Rolls
French and Bradford Worsted Rolls
Wool Spinning Rolls

Climax Rolls are custom-made to suit your equipment and your weighting requirements.

Don't Waste WASTE FIBERS...

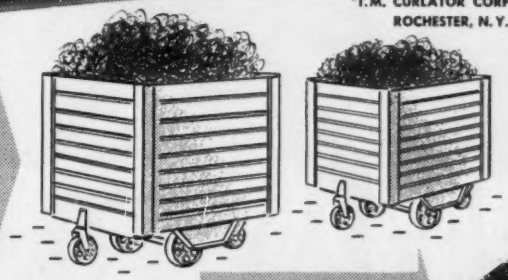
. . . the low grade materials used by
RANDO-FEEDER* and RANDO-WEBBER*
cannot be duplicated on any other machine

WHEN A MACHINE LIKE THIS

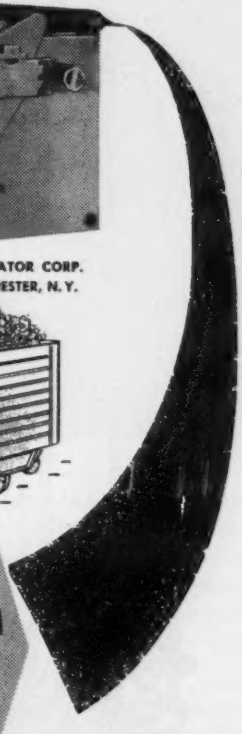


*T.M. CURLATOR CORP. ROCHESTER, N.Y.

CAN TURN WASTE FIBER LIKE THIS



INTO VALUABLE PRODUCTS FROM RANDOM WEBS LIKE THIS



It will pay research and product minded people to inquire about the

RANDO-FEEDER and RANDO-WEBBER

Inquiries are invited from research people who are developing entirely new products . . . *not necessarily textile* . . . where other materials are used in conjunction with waste fiber. Startling results are being obtained.

Write today.

TEXTILE DIVISION
CURLATOR
CORPORATION
ROCHESTER 10, NEW YORK

Curlator Corporation, Textile Division
573 Blossom Road, Rochester 10, New York

- ☐ Please schedule a demonstration
- ☐ Please make up samples from my own waste
- ☐ Please send Random Web Bulletin 101

NAME.....
COMPANY.....
ADDRESS.....
CITY.....

Where quality

is the

first consideration

in a fabric

there is

no substitute for

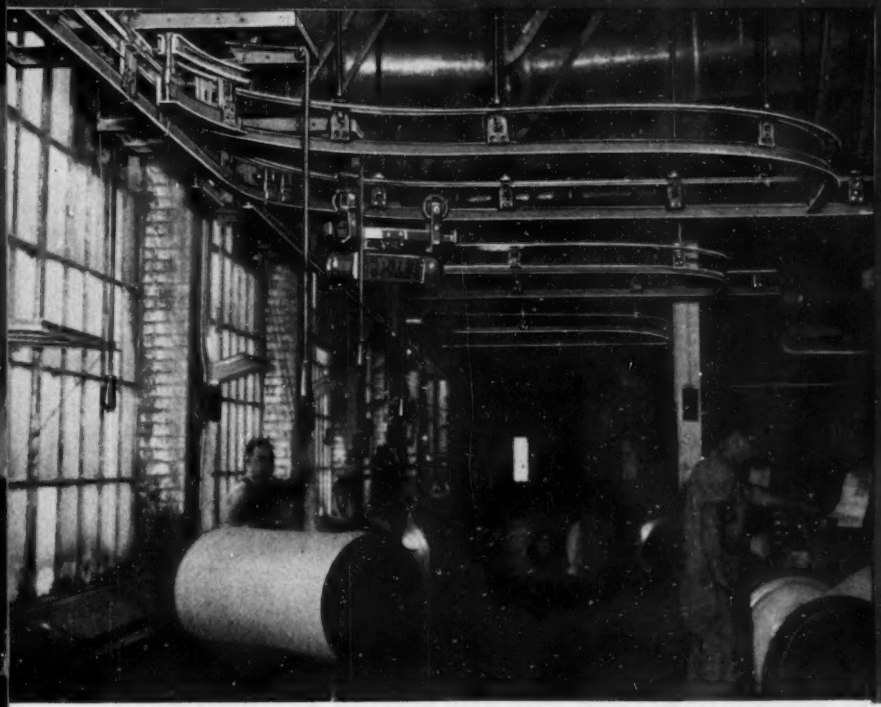
Celanese®

Acetate Rayon Yarn

*Reg. U. S. Pat. Off.

CELANESE CORPORATION OF AMERICA, 180 MADISON AVENUE, NEW YORK 16, N. Y.

Overhead handling with Louden MONORAIL is the trend in modern mills



. . . lap handling from pickers to cards

. . . beam handling to and from the slashers

. . . weave room beam to and from tying-in machine

. . . loom beam handling in the weave room

. . . roll or bale handling in finishing

. . . beam and cloth handling in the dye house

Automatic Ceiling Cleaner

Just push the control button and let the Louden Automatic Ceiling Cleaner do the rest. As it travels around the room on its overhead Monorail track, the Louden Cleaner alternately sweeps right and left to keep ceiling, lights, piping, ducts free of lint. Write for details today.

MODERN TEXTILE MILLS USE

Louden

OVERHEAD MATERIAL HANDLING

Greater safety, greater efficiency and lowered labor and maintenance costs . . . These are the chief reasons so many rayon and cotton textile mills are now being equipped with Louden Overhead Handling Systems. Machines can be spaced closer, more beams can be stored by higher stacking, a new orderliness is possible with Monorail.

Workers, too, respond enthusiastically to the electric-hoist, easy-push Louden systems that simplify lap handling from pickers to cards, beam handling to and from slashers, weave loom beam to and from tying-in machine, loom beam handling in the weave room, roll or bale handling in finishing, and both beam and cloth handling in the dye house.

Louden Overhead Handling fits almost every department of the mill. In fact, the Monorail System can provide unification for the entire operation. Write today for new, free, illustrated book, "Economical Material Handling".

THE LOUDEN MACHINERY COMPANY • 303 COURT STREET • FAIRFIELD, IOWA

...in this Race that begins in the Weaveroom!

When the public picks a winner in the hell-for-leather Steeplechase of today's clothing markets, chances are they've picked a fabric woven on C&K's convertible, versatile Call Box Looms.

In fact, here's something worth passing along to the clothing manufacturer, to the retailer, and then to the customer:

THIS FABRIC WOVEN IN THE USA...ON LOOMS BY C&K

For the loom is the establisher of fabric value—the heavy weapon of competition. And modern C&K Call Box Looms are "on the beam" in every factor that makes for market-winning promotions that can be built only on high quality and low cost ...top volume of flawless fabrics...amazing versatility, to get the best results from new fibres, fashions and constructions...and low operating costs, controlled through the consistent use of Certified C&K Loom Parts. And speaking of C&K versatility, are you making *full use* of it? You might come up with another winner, yourself!

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

When you 'go gunning' for high costs . . . .

SET YOUR SIGHTS ON FRICTION!

GULF PERIODIC CONSULTATION SERVICE
CAN HELP YOU BRING MAINTENANCE COSTS DOWN

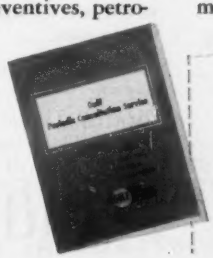
Every year friction puts its hand in U. S. industry's pocket to the tune of two billion dollars—for repairs, lost production time, and reduced plant efficiency.

You can reduce the "take" of friction in your plant by adopting Gulf Periodic Consultation Service. Through this co-operative plan you get year-round effective help on lubrication and maintenance problems—and on any other problem that involves petroleum products, such as cutting oils, quenching oils, fuel oils, rust preventives, petroleum solvents, waxes, and special process oils.

Scores of plants in every industry credit Gulf Periodic Consultation Service with practical assistance to operating and maintenance personnel in reducing costs straight down the line. The knowledge and experience of Gulf technologists can be profitably applied to many of your operating and maintenance problems.

Call your nearest Gulf office today for further information on this advanced service plan. Or mail the coupon below.

GULF



Gulf Oil Corporation · Gulf Refining Company
Room 719, Gulf Building, Pittsburgh, Pa. TI

Please send me, without obligation, a copy of the booklet "Gulf Periodic Consultation Service."

Name.....
Company.....
Title.....
Address.....

Colors Come Alive with *Evenate

Acetate fabrics or nylon-acetate combinations, like the beautiful sport dress shown here, get added beauty and saleability with Evenate in the dyebath. Colors come alive, patterns develop amazing sharpness of detail, brilliance.

Evenate is outstanding for extremely level dyeing results. It assures better dye penetration, shorter dyeing time. Non-foaming in dyebath. Works equally well with acid colors and acetate dyes.

Evenate can be used on underwear fabrics and carpet yarns, too. Try it on knit goods, woven nylon, laces. Write or call your Amalgamated Representative for production samples today.

**Evenate is a thin paste readily soluble in the dyebath. It is a non-ionic condensate combined with a glyceride.*

Excellent penetration and level dyeing results are obtained on new synthetic carpet yarns with Evenate.

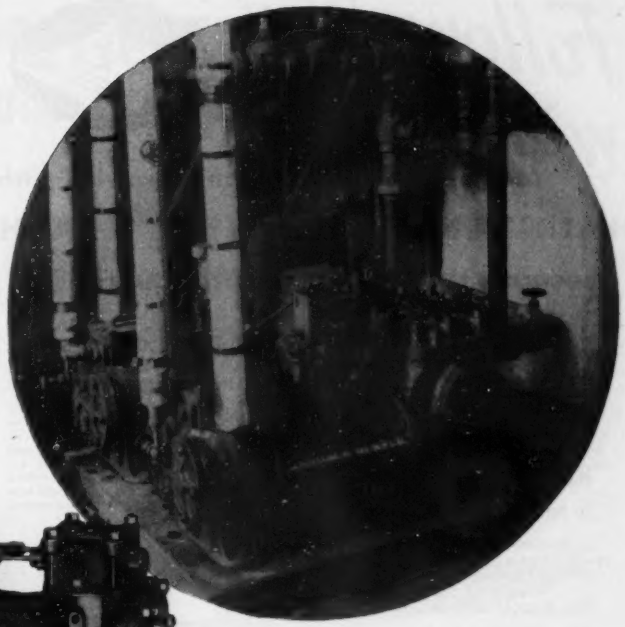
With Evenate, nylon-acetate combinations used in lingerie lace, achieve a perfect union of shade.

Hosiery dyehouses report increased production because of fewer redyes with Evenate.

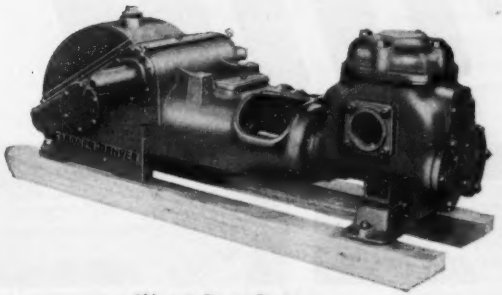
AMALGAMATED CHEMICAL CORP., Phila. 34, Pa.
Southern Division: 1819 Spring Garden Street, Greensboro, N. C.

Amalgamated

2-Way Economy with GARDNER-DENVER Boiler Feed Pumps



5¼ x 3½ x 5 Steam Pump



3½ x 5 Power Pump

1. POWER ECONOMY! Gardner-Denver Steam Pumps have short and direct steam ports for greatest steam economy. The steam valves stay tight at all steam pressures.

Gardner-Denver Power Pumps are equipped with friction-defying Timken tapered roller main bearings. Herringbone gears and large eccentric bearings transmit more of the power into useful pumping.

2. IN THE SIZE YOU NEED! Gardner-Denver Boiler Feed Pumps are manufactured in a wide range of sizes, for any type of drive. Our pumping experts will gladly help you select just the right combination for maximum economy in your plant.

Write us today for further information.

SINCE 1859

GARDNER-DENVER

Gardner-Denver Company, Quincy, Illinois
In Canada:
Gardner-Denver Company (Canada), Ltd., Toronto, Ontario

Atlanta, Ga.
Birmingham, Ala.
Knoxville, Tenn.
Washington, D. C.
New York, N. Y.
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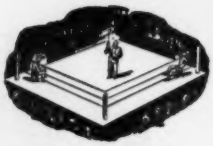
THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS

Follow-thru with Leather



You get perfect boxing and throwing with

HAIRITAN BOXMASTER LEATHERS

because they give with the punch

and go into a clinch

These stop-action photographs tell the story! They were posed after careful study with high speed stroboscopic lights, but since the top plate was removed it was impossible to have the loom in operation.

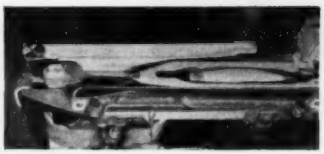
Notice that the shuttle *strikes* the shoulder of the binder, which then moves in against the shuttle and *brakes* it to a smooth stop at the end of the lay.

The exclusive G&K Hairitan tannage and finish give Boxmaster leathers a deep velvety, highly frictional surface and smooth catch-free edges. No waxes or fillers are needed. Boxmaster leathers do not bleed or catch fine filament rayon.

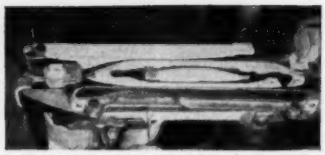
Boxmaster binder and boxplate leathers are part of the famous G&K Orange Line team of textile leathers that will help you get more and better output from your looms.

Photographs show a few of the many standard and special shapes in which binder and box plate leathers can be supplied. Hundreds of patterns are available, and both G&K and DIXIE are equipped to cement leathers onto your binders and box plates for best performance. Write for catalog.

1. Shuttle entering box strikes "shoulder" of binder, causing it to swing back, freeing shuttle.



2. Shuttle moves further into box.



3. Binder swings in against shuttle; binder leather provides braking action on shuttle.

HAIRITAN® BOXMASTER

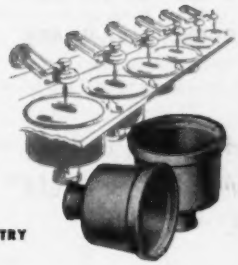
Binder and Box Plate Leathers

FAMOUS ORANGE® LINE TEXTILE LEATHERS

GRATON & KNIGHT COMPANY, WORCESTER, MASS. DIXIE LEATHER CORPORATION, ALBANY, GEORGIA *Affiliate*

In many places in your production

micarta is basic!



TEXTILE INDUSTRY

Lap rolls, pirns, picker-sticks, shuttles . . . MICARTA® is handling more and more of these key textile jobs better and longer than either metal or wood. MICARTA is a basic material. It is lighter than aluminum . . . pound for pound this plastic has a compressive strength greater than structural steel. It cannot rust.

MICARTA will not fuse. It kills noise and absorbs vibration. It can be machined, formed or fabricated easier and more economically than metal.

MICARTA is part of the textile future. Explore its possibilities in your plant. Westinghouse Electric Corporation, Micarta Division, Trafford, Pennsylvania. J-06444

MICARTA is paying its way. As a basic material it can serve the textile industry in rings, separators, guide rollers, spools, bobbins, shuttles, rolls, bearings, inspection forms and tables, pulleys, picker-sticks.

In fact, wherever tough, light and even-wearing parts are a "must" to production, there you will find a place for versatile MICARTA.

Picker Repair Parts--*Quickly*

We keep in stock for prompt shipment all parts for Kitson pickers as well as those of our own manufacture. For years we have shipped practically all repair part orders within 24 hours from the receipt of the order.

Most of our customers keep few, if any, picker repair parts in their stock rooms, but depend on our stock for service. This will be particularly desirable during the war emergency, when one large, available stock of parts can take the place of hundreds of incomplete stocks which would tie up a great deal more critical materials than the one large stock.

Our hundreds of regular customers are familiar with our service and depend on it. To those who are not our customers, we extend a cordial invitation to come to us in any emergency in the picker room.

We manufacture a complete line of picking, opening and blending machinery, and also rebuild like new old machines which are in need of replacement.

AldricH MachinE
Greenwood WorkS South Carolina

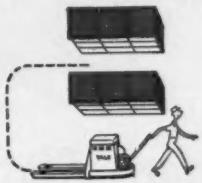
SQUEEZE PLAYS ... *that save you money!*

SAVE SPACE!

Thousands of square feet of it in aisles alone! Yale's Worksaver needs less room to work in so you gain valuable extra space for storage and production.*

**SAVE TIME!*

You can quickly work heavy loads with this shorter, lighter, more maneuverable Worksaver, cut costs on jobs bigger trucks can't get at.



SAVE MANPOWER!

One man at the steering handle can free an entire gang from the "sweat, strain and sprain" of heavy hand lifting.

"WALK IT OR RIDE IT!"

*Consider this saving before building new facilities.

Eliminate waste on hard-to-get-at jobs with these YALE WORKSAVERS

SAVE SAVE SAVE—that's the story of YALE'S Stubby Worksaver!

These pallet or platform trucks squeeze into small spaces to do big moving and lifting jobs... open up whole new areas of your plant to faster, more efficient materials handling... *cut your time and labor costs as much as 75%!*

The Yale Worksaver is a rugged trouble-free truck, too! A powerful electric drive unit, hydraulic lift and welded steel frame keep it on the job for years with a minimum of servicing.

Here's another YALE "expert" at cutting your costs

YALE
EASY-LIFT
HAND TRUCK

... Use it for short hauls, or in combination with Yale power trucks. YALE Easy-Lift makes it a cinch to lift and move heavy loads. It's light, maneuverable, sturdily constructed.

Send this coupon today!

THE YALE & TOWNE MANUFACTURING CO., Dept. 498
Roosevelt Boulevard & Haldeman Avenue, Philadelphia 15, Pa.

I am interested in cutting my materials handling costs.

_____ *Please send me free "Worksaver" literature.*

_____ *Please send me free literature on Hand Trucks.*

Name _____

Company _____

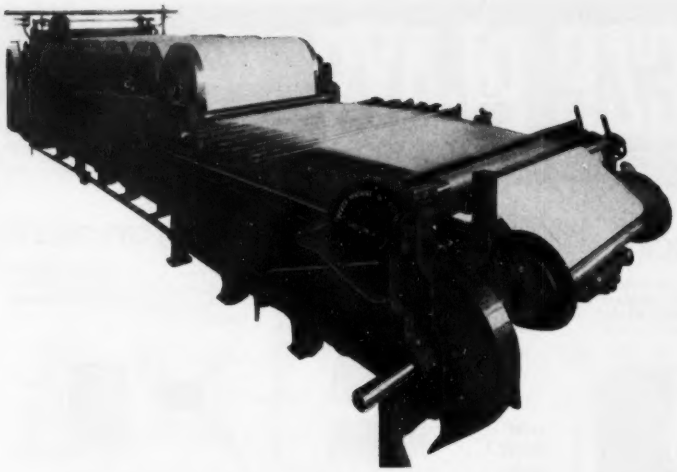
Street _____ City _____ State _____

YALE & TOWNE

The Yale & Towne Manufacturing Co., Philadelphia 15, Pa.

In Canada write The Yale & Towne Mfg. Co., St. Catharines, Ontario.

YALE is the registered trademark of The Yale & Towne Manufacturing Co.



The Cocker 9-Cylinder High Speed Slasher for cotton, spuns, filaments, and other type yarns.

The Most Modern Slasher in America

1200 Pounds

Production

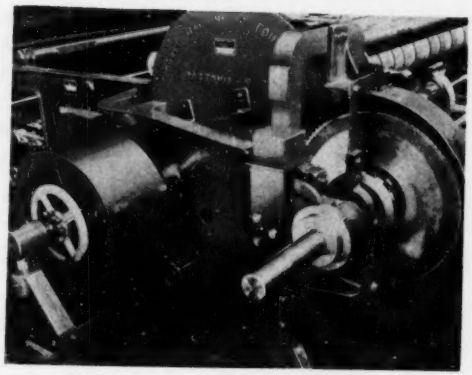
Per Hour

This machine has the new Cocker Friction . . . an exclusive feature which produces hard beams and gives more yards per loom beam.

Another exclusive feature of this slasher is its Differential Friction Compensating Control which permits high speeds without heating of Friction. This is now and has always been the most modern slasher on the market . . . the first to use Rotary Packless Joints, Individual Traps on each Cylinder, Flexible Hose Connections, Stainless Steel Cylinders, Variable Speed DC Drive, and many other features which are now universally used.

It will pay you to investigate the many valuable features of this most modern of all slashers.

The New Cocker Friction



THE LEADER AROUND THE WORLD

COCKER Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

TEXTILE BANKING COMPANY

Inc.

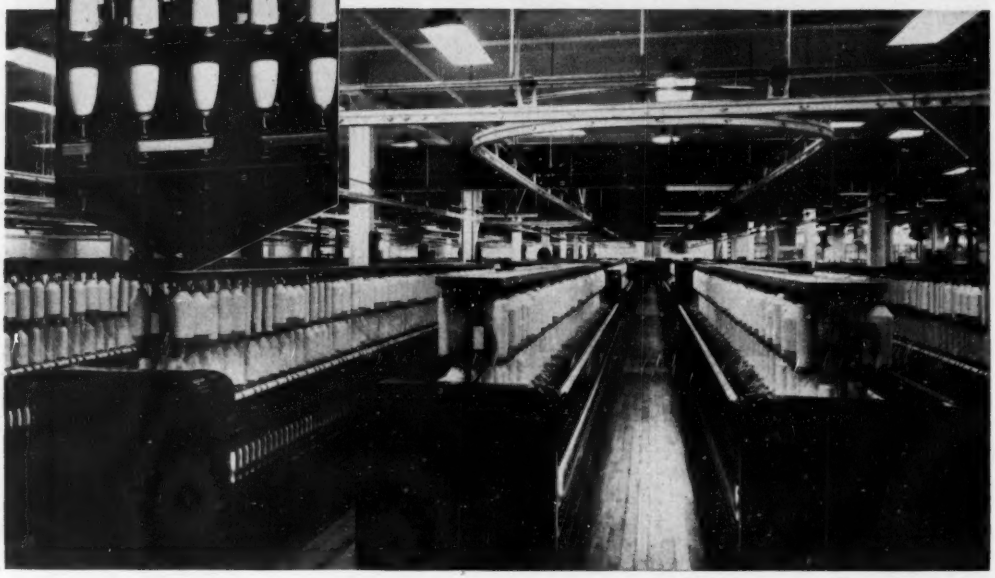
Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

Marquette *Roller Bearing Spindles with Full-Floating Footstep Bearing....*

FOR COTTON, RAYON, NYLON, WOOL, WORSTED



● Several years ago this mill ran a test on a frame of 312 Marquette Roller Bearing Spindles, and today has more than 124,000 in operation . . . some on new frames, some as replacements.

Marquette Cotton Spinning Spindles operate at high uniform speeds and produce yarn of top quality. They reduce costs through savings in power, tape, lubricant and maintenance.

We'll be glad to prove this with a test installation in *your* mill. Contact our home office or one of our representatives.

PROTECTED BY U. S. AND FOREIGN PATENTS. AND PATENTS PENDING

The Marquette METAL PRODUCTS CO.
CLEVELAND 10, OHIO
SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Representatives:
C. H. WHITE, 412 W. GUILFORD ST., GREENSBORO, N. C.
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JOHN J. MALLOSY, 99 LIVINGSTON AVE., LOWELL, MASS.

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • FUEL OIL INJECTOR WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • PRECISION PARTS AND ASSEMBLIE

Textile Industries
Vol. 115 • August, 1951

News in Brief

Research on Card Comb Drive. A recent project at Southern Research Institute has as its object the development of an improved drive mechanism for the card comb; involved is complete redesign of the conventional unit and the development of an electromagnetic drive.

Storage Space: Look Overhead. Mills having trouble locating additional storage room in some instances have utilized space overhead to good advantage.

Supported Plastic Upholstery in Pattern. Upholstery of the supported plastic sheeting type has been developed in fabric design; it is said to offer attractive relief pattern that can take hard wear and is easier to clean. Details from Du Pont's Fabrics Division.

Wool Research Labs. The five largest wool research laboratories expanded between 1946 and 1950 by 50% in personnel, but the smaller laboratories showed no such growth, according to The Wool Bureau.

Saran Staple. Saran Yarns Company, Odenten, Md., has developed a fine denier saran curled staple fiber.

Japanese Treaty Not to Restrict Production. The peace treaty with Japan, according to informed sources, will not contain restrictions on the industrial production.

Rinsibility of Synthetic Detergents. A testing procedure for the rinsibility of synthetic detergents has been developed by Dr. W. A. Fessler of Solvay Process Division, Allied Chemical & Dye Corp., 40 Rector St., New York. A feature of the method is the detection of the presence of synthetic detergents when they are mixed with inorganic alkalies. Full report available from Dr. Fessler.

Testing Machines Important. Ample supplies of laboratory equipment will be permitted by NPA, which recognizes import of lab apparatus in textile production.

Regrets Cuban Tariff Rates. Steep increases in Cuban tariff rates on American textiles entering that country (incorporated at Torquay GATT conferences) have been bitterly assailed by the Textile Export Association.

Request Renewal of Learner Certificates. U. S. Department of Labor formerly notified mills before expiration of learner certificates, but this practice has been discontinued because of personnel limitations. Mills are cautioned to communicate with the proper division 60 days prior to the expira-

CHICOPEE'S HOLMAN PARTICIPATES IN PRESENTATION OF BUST OF DR. BRITTAIN TO GA. TECH

Dr. M. L. Brittain (extreme left), president of Georgia Institute of Technology in Atlanta from 1922 to 1944, was honored recently when a bust of himself was unveiled by his wife in front of Brittain Dining Hall on the campus.

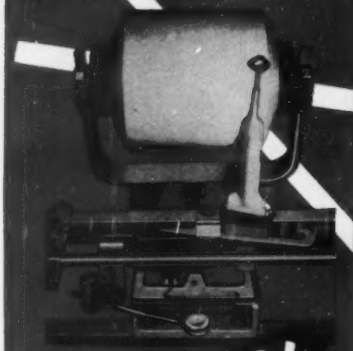
Wayne James (Jack) Holman (right of bust), president of Chicopee Manufacturing Co., Inc., presented the bust on behalf of his Class of 1928 to President Blake R. Van Leer (extreme right) who accepted it on behalf of Georgia Tech.

It's a PRODUCTION FACT

with the high-speed —HEADLESS PACKAGE— U.S. ACME FACE DRIVE —TWISTER—

You can

★ INCREASE PRODUCTION!
★ IMPROVE QUALITY!
★ ELIMINATE REDRAWING!
★ PRODUCE 1-lb. to 1½-lb. KNOTLESS PACKAGES!



NO FLYER!

DIRECT to AUTOMATIC QUILLING or HIGH SPEED WARPING

WITHOUT REDRAWING

PRODUCTION HIGHLIGHTS

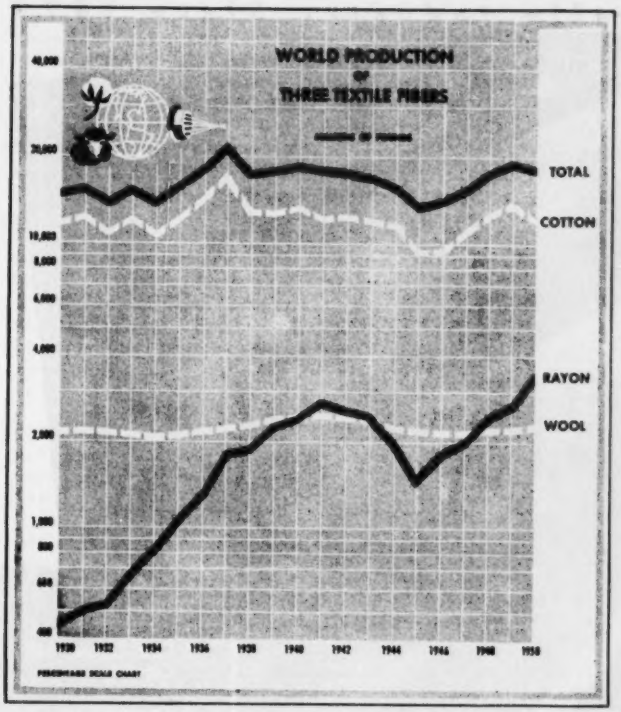
★ Twist without flyer up to 15,000 R. P. M. with balanced bobbins!

★ Combination yarns, voiles, acetates and nylon up to 35 turns per inch!

★ 178,096 spindles now in production!

Yes, it's a fact—yarn twisted on the U. S. Acme Face Drive Twister goes DIRECT to the quilling or high speed warping operation without redrawing! It's a time and cost saver, a production booster that turns out top quality knotless packages from 1-lb. to 1½-lb. WRITE FOR COMPLETE INFORMATION . . .

U. S. TEXTILE MACHINE CO.
700 GILLIGAN ST.
SCRANTON 8, PENNA.



Courtesy, "Rayon Organon"

tion date of current learner certificates in order to obtain application forms and file them in time for further authorization.

S. C. Association Name-Change. Name of South Carolina's textile association has been changed from South Carolina Cotton Manufacturers Association to the South Carolina Textile Manufacturers Association, thus recognizing the growing diversification in textiles in the state and the contributions made by synthetics and other fibers.

Accident Rate. American industry showed a substantial reduction in both frequency and severity of accidents in 1950. Textiles had slightly less of a frequency rating, but an increase in severity.

Salvage in the Air Force. The USAF last year recovered 151,400 sq yd of fabric from unserviceable personnel parachutes of nylon, silk, and rayon. Material was used for men's scarfs, bags for silica gel, etc. The riser cords were used for press coverings and laundry equipment.

Nylon in Japan. Toyo Rayon Company, Ltd., of Tokyo, has been licensed by Du Pont to manufacture nylon in Japan. The trademark is Amilan.

No Fault with Holeproof Ads. The Federal Trade Commission has found no fault with advertising copy by Holeproof Hosiery Company which states that its hosiery is non-run and snag-resistant.

Sound Film on Lingerie. Du Pont offers to lend a new sound-slide film produced in color which reviews what nylon lingerie has to offer in terms of long wear, easy laundering, comfort, etc. It is chiefly intended for sales training.

Similarity in Wools. Results of a project conducted under auspices of The Wool Bureau indicate a remarkable degree of similarity in the basic physical properties of Australian and New Zealand wools and comparable domestic wools studied. Resting the wool definitely results in an appreciable increase in the strength of top and roving, it is said.

Materials Handling Sound-Movie. A new 2-reel talkie gives typical conveyor applications in 14 different industries. Available from Lamson Corporation, Syracuse, N. Y.

Chemstrand and Nylon. Chemstrand Corp. has signed an agreement with Du Pont whereby Chemstrand will produce 50 million pounds of nylon filament and staple fibers per year.

Kenaf in Philippines. A project for producing kenaf as a substitute for jute is now under way in the Philippines. The fiber also is being planted in Florida, near Belle Glade, by the American Kenaf Fiber Corporation of Palm Beach.

Hosiery Meet in 1952. The next annual meeting of the National Association of Hosiery Manufacturers and the Hosiery Industry Conference will be in Atlantic City, April 28-29, 1952.

TRI Incorporates in N. J. The Textile Research Institute has been incorporated in the state of New Jersey. Former incorporation was in New York.

Woven Wool Fabrics Redmanized. Woven wool cloth has recently been Redmanized in lieu of spongeing. A large government supplier tried it. Relaxation shrinkage results jolted the experts. It may pave the way for big scale changes in woolen spongeing, spraying, or shrinking plants. According to reliable sources, six per cent additional normalization can be obtained. Philadelphia QM depot, site of the country's largest spongeing operation, is exploring this new application. The Red-

Serving The Textile Industry Since 1899

PRECISION PAPER PRODUCTS

For the

TEXTILE INDUSTRY

1 Tie-in Tubes
2 Card Clearer Roll Covers
3 Topping (Thompson) Rolls and Covers
4. Pin Drafter Core
5 Loom Beam Repair Tubes
6 Spooler Cheese Cores
7 Rayon Cake Forms
8 Cork Covered Cones
9 Temple Roll Cores
10 Self-Weighted or Floating Roll Covers
11 Roving Tubes
12 Underclearer Rolls
13 Aluminum Ball Warp Mandrels
14 Ball Warp Tubes

Most SONOCO Specialty items are used in connection with reducing cost of operations by providing greater efficiency, greater speed or reducing man hours.

If it's a problem in textiles that paper can solve, you can depend on SONOCO for exhaustive research and development.

sonoco — "Serves the World" — "Paper Carriers" — Reg. U.S. Pat. Off.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

man process first gained prominence in the cotton and wool knitted underwear industry.

Redmanizing will soon be ripe for Great Britain where rayon knit underwear is popular. A formaldehyde reaction with rayon knit goods converts the rayon molecule into a substance having the characteristic dimensional stability of cotton. In this state, relaxation shrinkage inherent in the knit goods may be removed.

Wool and cotton knitted outerwear manufacturers in the United States are also eyeing the Redman process. Initial tests in this field show great promise.

"Fiber Facts." A vest pocket booklet entitled "Fiber Facts" and published by American Viscose Corporation contains information on physical properties of textile fibers, handy tables, maps, and a glossary of textile terms. Available for the asking.

Save Waste Paper. Mills are urged to save all waste paper, especially corrugated and solid fiber boxes and containers, and to sell them through authorized waste paper channels. Paper is already in short supply.

Nylon - and - Plastic Waterproof Fabric. A waterproof fabric, made of nylon fiber and plastic, has been developed by United States Rubber Company for use in raincoats, tarpaulins, and other products. The fabric is called Fiberthin and has high strength and tear resistance. It weighs five ounces a square yard and has a tear strength of 15 to 22 pounds with a tensile strength of 150 to 180 pounds. In addition to being waterproof, the new fabric is mildew and flame-resistant, oil, acid, and alkali resistant.

Growing Demand for Carpets Containing Rayon. A survey of 4500 retail stores across the nation has verified the carpet industry's conviction that the acceptance of carpets woven in part or entirely with the new carpet rayon fiber is strong and on the upswing. The survey was conducted by retail executives on the advisory council of Bigelow-Sanford Carpet Co. It reveals that stores expect the growing demand for this type of carpet to keep pace with or surpass its increasing availability as production of carpet rayon becomes more plentiful.

Defense Production Weekly. The Defense Production Administration has brought forth a weekly bulletin to summarize week-by-week developments in defense production. The bulletin is published to supply a compact roundup of official actions taken by DPA and related defense agencies.

Sand For Use In Grease. Research men in the Du Pont Company's Grasselli Chemical Department have discovered a sand-derived material called GS-199S silica to thicken oil in making grease. Greases thickened with GS-199S silica retain their consistency as the temperature rises. This was demonstrated by the difference in behavior of ordinary grease and silica grease when a lump of each was heated on an electric grill. The conventional grease slumped; the grease containing silica stood up.

Survey of Fiber Consumption. A comprehensive reference source on the competitive position and the relative importance of all the different fibers produced, processed, exported, imported, and consumed in the United States is combined in a statistical survey "Trends in the Consumption of Fibers in the United States 1892-1948," by Barkley Meadows. The survey is contained in Statistical Bulletin No. 89 and may be obtained from the Southern Regional Research Laboratory, 2100 Robert E. Lee Boulevard, New Orleans 19, La.

On Defense Contracts and Research Facilities. Small industrial plants, which have no technical staffs or research facilities, may bid on defense contracts which involve considerable product development, provided they have access to a consulting laboratory. Several Virginia firms have simply attached a brochure of a qualified research establishment to their bids to give evidence that they have access to suitable development agencies.

News in Brief

Requesting Delay for Reservists. Mill men have been cautioned that it is important to plead cases in person when requesting delays for reservists called to duty in armed services.

Electrically Heated Flying Suit. A one-piece electrically heated flying suit that will protect airmen from frostbite in temperatures as low as –65 F has been developed by the Air Force. An all-purpose exposure suit, developed by the Air Materiel Command's Aero Medical Laboratory, is made from rip-stop nylon double coated with water impervious chloroprene and weighs only 7½ lb. The suit will keep a ditched airman afloat in water or protect him from expos-

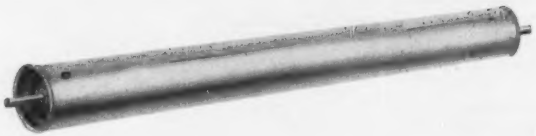
(*Continued on page* 184)

SCOTCH TAPE MARKS LANES AND AREAS

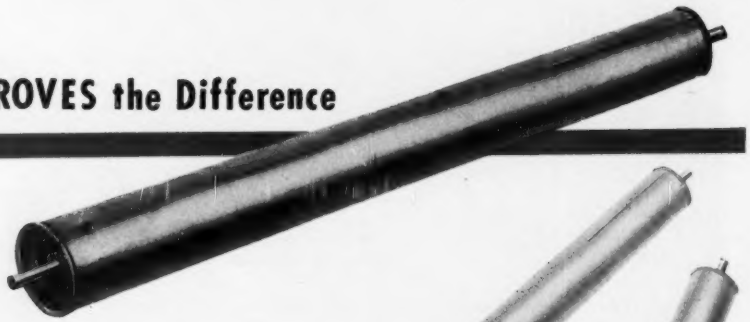
The trucking lanes and safety areas in this picture are marked with Scotch tape (special kind) which can be applied by mill's own force. Tape is resistant to acids, alkalies, water, alcohol, gasoline, and kerosene; comes in seven colors to help identify specific floor areas.

Courtesy Minnesota Mining & Mfg. Co.

ALL "DYNAMICALLY BALANCED" CYLINDERS *ARE NOT* ALIKE



Performance PROVES the Difference



Not all spinning cylinders marked "dynamically balanced" give the perfect results you have a right to expect.

But you can be sure of getting the smoother operation and complete freedom from vibration a dynamically balanced cylinder should give, when you specify JENKINS DYNAMICALLY BALANCED CYLINDERS—engineered by the pioneer specialists in dynamic cylinder balancing. Every Jenkins cylinder is guaranteed.

Ask a Jenkins representative to show you *why* Jenkins Cylinders run smoother, last longer. Let him show you *how* they reduce wear throughout the frame . . . and assure more uniform yarn production and quality. Compare the performance of JENKINS DYNAMICALLY BALANCED CYLINDERS with any others—we believe you'll be convinced!

JENKINS

ENGINEERED PRODUCTS

JENKINS METAL SHOPS
GASTONIA, NORTH CAROLINA

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Tar Spots

From time to time, we have had things to say (most of them unkind) about the so-called "tar spots" which have a nasty habit of cropping up in finished goods. As some of the readers of TEXTILE INDUSTRIES may remember, this question was discussed by this columnist several years ago, and we told you at that time about the efforts being made to eliminate the coated bale ties from the cotton trade, since such ties were believed to be the principal cause of the damage. It was found that the tar solution in which the bale ties were dipped had a bad habit of softening and thereby staining the cotton.

Through subsequent efforts on the part of various organizations, the three principal manufacturers of bale ties were induced to stop the coating practice and, as we understand it, practically no ties have been coated since 1948. It is true that quite a few bales which were bound with coated ties went into the Government loan in 1948, and some of these are still coming out, and will probably continue to come out for some time.

Nevertheless the elimination of the coated tie did not bring a complete end to the problem. Small black spots continued to appear in fine goods production, as well as in the coarser constructions when they were finished in the lighter shades, such as pastels. One theory was that bale ties made a number of years before were still in the trade, because it was the custom until a few years ago to sell used ties to junk dealers who beat them back into shape and then resold them to the gins. As a result of a considerable amount of publicity, however, most textile mills were induced to discontinue the selling of coated ties and this helped immeasurably in eliminating them from the channels of trade.

Still No Solution

In spite of all of these efforts, we still do not seem to have found the solution to this puzzling problem. Mills receive cotton bound with unpainted ties, and yet when the bagging is removed, small bits of tar are found adherring to the surface. One mill man tells us that there is some division of opinion as to whether the tar is also found on the inside of the bale. He contended that at his mill he had never found any evidence of tarry substances except on the outside. He reported, however, that another mill had found small lumps of tar virtually in the center of a number of bales.

Still another puzzling factor is that frequently there appears to be no tar on the surface of the bale, but by the application of certain chemicals and through the use of an ultraviolet light, the signs may be detected.

For the past several years a number of possible causes have been suggested. One of the most prevalent of these was that asphalt was picked up from the highways by the tires of trucks hauling the cotton, and then it was thrown from the tires to the cotton. Another theory was that vehicles, passing along tarred roads, had spattered the tar on the adjacent cotton fields. Neither of these would seem to account for the large amount of trouble some mills are having.

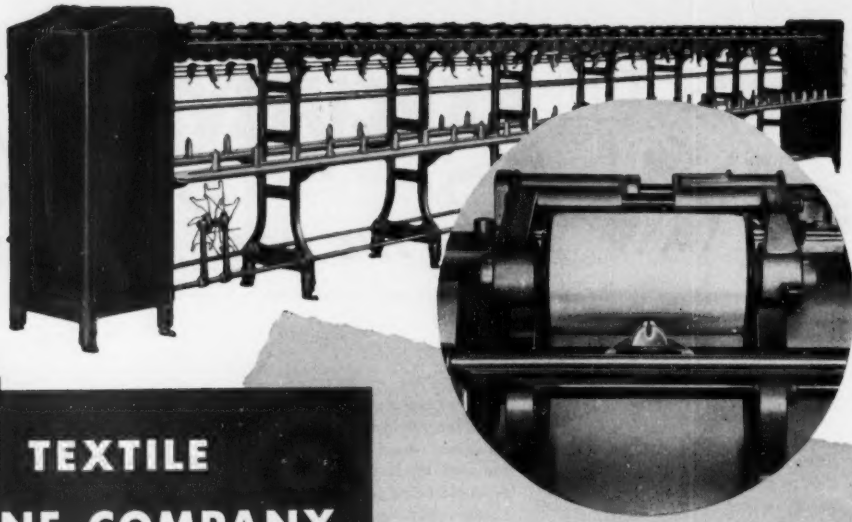
One or two mills have felt that some sort of asphalt base substance was dropping from the fluorescent lights and causing the damage, while others have claimed that the interiors of railroad freight cars are, in some cases, painted with an asphalt base paint, which has been the principal source of the difficulty.

But whatever the cause, we still seem far from finding a solution. Mills which weave dark goods, such as denims, are not troubled with it, nor is there much trouble with any type of goods when cotton fabrics are scarce, and market prices are high. The problem seems to come to the front mainly when market conditions begin to slide and buyers are not particularly anxious to accept shipments. By this statement we do not mean to imply that the disturbances over tar spots have been caused by buyers who were banded together to thwart the sellers. We simply mean that the problem has been accentuated by market conditions.

It seems that what is needed is a practical fact-finding survey which would try to eliminate the

SCRAP IRON AND STEEL

Supplies of heavy industrial iron and steel scrap have become dangerously low in recent months. Mills are urged to dispose of scrap through normal channels as quickly as possible.



U·S T.M.CO. **TEXTILE MACHINE COMPANY**

ALSIMAG GUIDE
U. S. Textile No. SR-1-1049
AlSiMag No. GE-24476

ALSIMAG® TRAVERSE THREAD GUIDES

FOR U. S. ACME HIGH SPEED SPOOLER

The U. S. Acme High Speed Spooler is used principally on fine denier synthetic yarns which very rapidly cut through ordinary guides.

This AlSiMag Traverse Thread Guide was adopted after comparative tests. Actual mill records proved their extra long life and economy.

The polished slot of this guide is 1/32" wide. It assures accurate control at the end of the traverse, creates a uniform wind, results in a package of uniform weight. These AlSiMag guides are accurate and are physically and dimensionally uniform. They are smooth, hard, homogeneous. There is no surface "skin" to wear through. Wear is very gradual, simply exposes new surfaces of the same character as the original.

REPLACEMENT GUIDES. U. S. Textile Machine Company, Scranton, Pa. carries these AlSiMag Traverse Thread Guides in stock in AlSiMag 192 for immediate shipment. The same guides may be ordered from American Lava Corporation, Chattanooga 5, Tennessee for shipment after normal production intervals. These guides can also be furnished by American Lava Corporation in AlSiMag 193 (same physical characteristics as 192 except that color is metallic gray and material is electrically conductive to assist in bleeding off static) or in AlSiMag 491 (super long wearing material, hardness of 9 on Mohs' scale, light blue in color).

TEST SAMPLES from our file sent without charge. AlSiMag Guides are Custom Made. Hand made samples of any design can be furnished at reasonable cost.

MORE AND MORE, LEADING MACHINERY MANUFACTURERS ADOPT ALSIMAG GUIDES

50TH YEAR OF CERAMIC LEADERSHIP

AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENNESSEE

OFFICES: METROPOLITAN AREA: 671 Broad St., Newark, N. J., Mitchell 2-8159 • CHICAGO, 228 North LaSalle St., Central 6-1721
PHILADELPHIA, 1649 North Broad St., Stevenson 4-2823 • LOS ANGELES, 232 South Hill St., Mutual 9076
NEW ENGLAND, 38-B Brattle St., Cambridge, Mass., Kirkland 7-4498 • ST. LOUIS, 1123 Washington Ave., Garfield 4959

variables and, if possible, pin point the source of difficulty. If it can be determined that all of the cotton with the offending tar is coming from one particular locality, then that would be a long step in the right direction. If it is found that the foreign substance is coming from the interiors of railroad cars, then it should not be too difficult a matter to see that the necessary remedial steps are taken. First of all, however, the industry must sift out the facts.

Scrap Metal

It is a far cry from tar spots to scrap metal, but we would like to point out one way in which you may be able to help the defense effort in these times of growing uncertainty.

The Department of Commerce has called on all industry to make a particular effort in the collection and sale of scrap metal, in order that an adequate supply may be kept flowing toward the steel mills. The Department estimates that 32,500,000 gross tons of purchased scrap will be required in 1951. This is 3,000,000 gross tons over the previous year.

When we heard that statement made recently, we wondered why the steel industry needed scrap metal. Cotton people do not know much about such things, but we did at least find the explanation. It seems that steel is made from approximately one-half scrap and one-half pig iron. We are told that the use of scrap in making steel adds to the quality of the product, and also helps to keep the cost down. Each ton of scrap used by the steel industry means that the nation is conserving approximately two tons of iron ore; one ton of coal; almost a ton of limestone and substantial savings in other materials.

What can you do about collecting scrap? One thing that you can do is to make some individual in your organization responsible for the task of "spotting" pieces of obsolete machinery and other such items which have long since ceased to be of value in their original form, and which now might be sold to scrap dealers. Each collection of this material will result in better housekeeping for your plant, will bring in a few dollars when sold, and will be of considerable assistance in the defense program. Around nearly every textile mill may be found pieces of rusted machinery, which are a menace to navigation and an unsightly part of landscape. These should be turned over to the scrap dealer as an aid to steel production.

Aug. 17—Summer outing, **Independent Association of Stocking Manufacturers,** Cedarbrook Country Club, Philadelphia, Pa.

Aug. 23-24—**American Society for Quality Control,** textile quality control conference, Clemson (S. C.) College.

Sept. 3-7—**American Chemical Society,** diamond jubilee, New York City.

September 10-14—**Sixth National Instrument Conference and Exhibit,** Sam Houston Coliseum, Houston, Texas.

Sept. 13-14—Annual meeting, **National Association of Cotton Manufacturers,** New Ocean House, Swampscott, Mass.

Sept. 13-14—Fall meeting of the **Fiber Society,** Swampscott, Mass.

Oct. 4—Sixth annual meeting, **Carded Yarn Association, Inc.,** Carolina Hotel, Pinehurst, N. C.

Oct. 8-12—39th **National Safety Congress and Exposition,** Chicago, Ill.

Oct. 16-17—Annual conference, **Canadian Woolen & Knit Goods Manufacturers Association,** Hotel Fort Garry, Winnipeg, Manitoba, Canada.

Oct. 17-19—Annual convention, **American Association of Textile Chemists and Colorists,** Hotel Statler, New York, N. Y.

Oct. 18-19—Annual meeting, **North Carolina Cotton Manufacturers' Association,** Carolina Hotel, Pinehurst, N. C.

Nov. 8-9—Annual meeting, **Textile Research Institute,** New York, N. Y.

1952

Jan. 16-19—**Plant Maintenance Show,** Convention Hall, Philadelphia, Pa.

April 16-18—Annual convention, **Cotton Manufacturers Association of Georgia,** Boca Raton Hotel and Club, Boca Raton, Fla.

April 16-17—Spring meeting, **Fiber Society,** Clemson House, Clemson, S. C.

April 21-25—**Knitting & Allied Crafts Exposition,** Grand Central Palace, New York City.

April 28-29—Annual Meeting, **National Association of Hosiery Manufacturers;** also the **Hosiery Industry Conference;** Claridge Hotel, Atlantic City, N. J.

May 15-17—Third annual convention, **American Cotton Manufacturers Institute, Inc.,** Haddon Hall Hotel, Atlantic City, N. J.

June 23-27—Annual meeting, **American Society for Testing Materials,** Hotel Statler, New York, N. Y.

Oct. 6-11—**Seventeenth Southern Textile Exposition,** Textile Hall, Greenville, S. C.

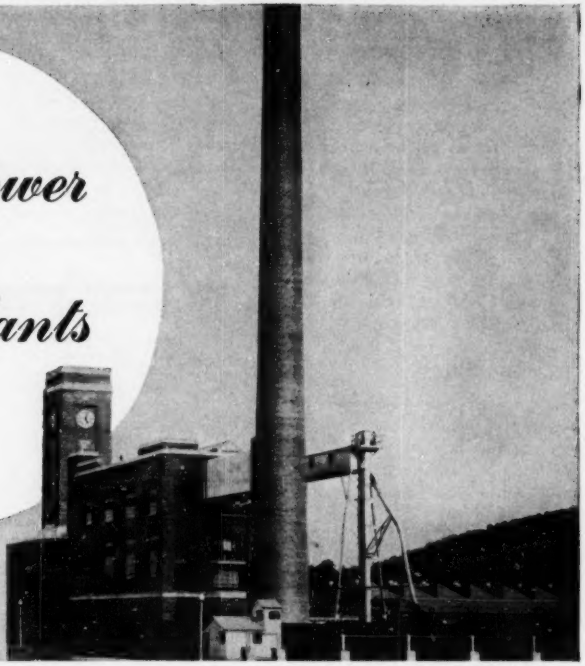
Sad State of Affairs

It always makes this writer feel better when he can say a few kind words about the Government, because most of the time we sit and stare at incomprehensible regulations and mutter about bureaucracy. It would be nice if we could say something kind about the control measures with which we happened to be faced during the past year, but with each passing month it becomes very evident that many people in our Government would like to bring about a sort of state socialism, which would mean the end of democracy as we have known it since the Revolutionary War.

Writing in these columns some months ago, we mentioned that the country was going deeper and deeper into a controlled economy, and that practically every step taken was in that direction rather than from it. The Great Debate concerning the Defense Production Act of 1950, and in particular the discussion which centered around the extension of price controls, was heartening in many ways because it showed that quite a few representatives and senators were fully aware of the direction in which the country is drifting. In another way, it was quite discouraging because it showed how many Americans had had their initiative and their self-reliance dulled by nearly twenty years of handouts from Washington, by promises of Social Security and by sweet sounding slogans. These were later strangely transformed into higher taxes.

We hate to sound pessimistic, but it looks to us as if the time has long since passed for Americans to stand to their guns and demand restoration of democracy and freedom. There is no "Royal Road to Riches" but the politicians have managed to convince millions of Americans that there is such a road and that they can lead them to it.

Textile Power and Steam Plants



American Enka Corp., Asheville, N. C.

A Record of Service as measured by...

Number of Engagements	over 1,000
Number of New Plants	over 300
Number of Major Additions	over 200
Minor Additions, Appraisals, Studies and Reports	over 500
Locations: in every state where textile plants are located; numerous foreign countries.	
Cost of new plants and major additions	over $75,000,000

This is a record of broad engineering service performed by Lockwood Greene Engineers in connection with Textile Power and Steam Plants.

Steam is such an important part of many textile operations that "costs" are vitally important. Every cent per 1000 pounds that can be cut off costs is a big help. It avails little to design an impressively efficient manufacturing plant and not provide that plant with low cost power and steam. And a big help in designing the power and/or steam plant, is a fundamental understanding of textile manufacturing problems.

LOCKWOOD GREENE Engineers, Inc.

ARCHITECTS • ENGINEERS

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New York 20, N. Y. 10 Rockefeller Plaza

Spartanburg, S. C. Montgomery Bldg.

Montreal, Canada—Room 601, 215 St. James St., West

NEW Equipment AND MATERIALS

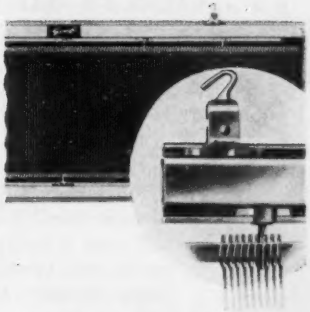
Grob Harness Frames Have Free Riding Slide Hooks

The Grob patented "Lightmetal" harness frame is now being fabricated in this country by a subsidiary of Grob & Company, Ltd., of Horgen, Switzerland.

One of the main features claimed for this frame is the free riding slide hooks which will not allow heddles to bunch, but will automatically adjust themselves to the heddle and warp threads throughout the entire length of the frame to avoid any gaps in the warp which often result in warp streaks.

The raising and lowering hooks are also novel in construction. When the hook part of the assembly is in position, it locks the entire hook to the frame. This allows hook adjustment while guaranteeing against hook pull-outs or the loosening of the hook on the frame.

The side supports of the frame are made from "Lignostone," a highly compressed and impregnated wood which, according to the manufacturer, cannot warp and is moisture proof. Supports are made thicker than the frame, preventing any metal-to-metal contact during operation. The side supports contact only each other with a resultant polishing action.



The Grob harness frame. Inset shows free riding slide hooks.

A special snap-in center support is provided for extra long frames, and a special assembly, easily applied or removed, will convert a regular frame into a selvage frame or vice versa.

Wear on heddle and heddle bars is said to be considerably reduced, and any unequal tension on the warp threads is prevented by the construction and action of the frames in the loom.

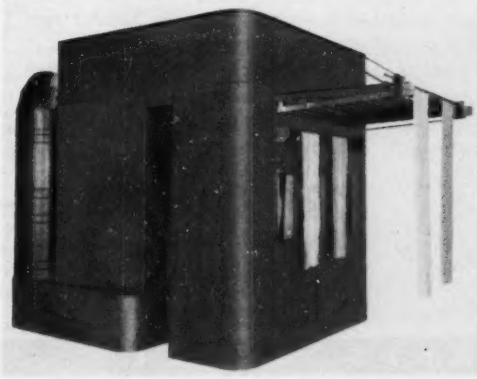
Grob Corporation, P. O. Box 287, New Bedford, Mass.

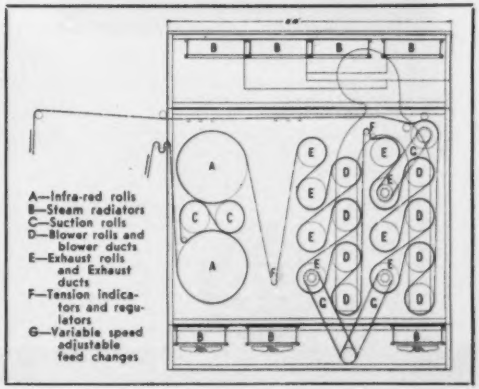
For additional data, request item H-105, using business reply card on page 208.

High Production Infra-Red Dryer for Knit Goods

With the recently developed "Geni" knit goods dryer high production can be had in a small area at low cost, the manufacturer claims. Measuring only 8' 6" from front to back and 9' wide, the machine has a capacity of over 3,000 lb in eight hours. It is said that less than ten minutes are required to raise the temperature inside the machine from room temperature to a point where it is ready to start drying. As a result, the machine may be considered practical for knitting mills with con-

The "Geni" knit goods dryer by Grand Rapids is shown at left. Right, sketch showing flow of fabric through machine.





A MESSAGE TO AMERICAN INDUSTRY

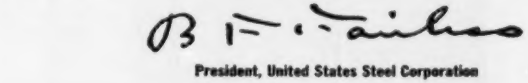
"This is more than a shortage . . . this is an emergency.

Every pound of your scrap is needed, NOW !"

"THE STEEL INDUSTRY is currently operating at more than 100% of rated capacity—turning out well over 2 million tons of steel per week. This record high production—every ton of which is in urgent demand—cannot be kept up unless we get more scrap from every potential source. For without your scrap we cannot produce enough steel. Today, every ton of steel turned out requires a half a ton of scrap for its production. That's why scrap—more scrap—is so urgently needed, and needed right away.

"The fact we have to face today is that steel mills are operating on a hand-to-mouth basis as far as scrap is concerned. Some mills are working on only a two-day supply of scrap. We already have had to shut down steel-making furnaces for lack of scrap.

"That's why we are asking you to strain every effort to get more scrap out of your plants and yards and on its way to the mills . . . to search out the scrap that doesn't come to market in normal times. You'll find this "dormant" scrap in obsolete equipment, tools and machinery that you haven't used for years . . . overlooked in your storage sheds . . . or rusting away in a junk pile in some forgotten corner. It's there. Turn it in at once—*so we can turn out the steel you need.* We can't do it without your help."



President, United States Steel Corporation

USS

1-1182

UNITED STATES STEEL

siderable production and for smaller mills also.

The principle of operation is said to be new. By means of infra-red electric coils or infra-red gas burners the moisture in the fabric being processed is raised to a temperature at which it vaporizes before any attempt is made to remove it. As may be seen by referring to the accompanying drawing, this stage occupies approximately 30% of the drying cabinet space but actually does more than 75% of the drying job.

When the fabric leaves the infra-red section it passes over two sets of eight rolls each where both faces of the cloth are subjected equally to the blowing and suction of hot air while in a relaxed state. From this point the fabric passes over a perforated steam cylinder where it is saturated with live steam and dropped in loops onto a slatted conveyor which carries it the full length of the dryer and out to the finishing unit.

A variable speed feed on the entering unit assures feeding of various weights and types of material so they start without tension. Variable speed drives are located between the infra-red section and first section of eight rolls, between first and second sections of eight rolls, and also between second section and steam cylinder. Tension can be indicated and measured and governed by these drives for shrinkage control.

The machine will dry any textile fiber. It can also be used for heat-setting thermoplastic fabrics or finishes since the temperature can be raised 350 degrees or higher as required without injuring the fiber. It is especially suitable for use in conjunction with a continuous production system. Economical to operate.

Grand Rapids Textile Machinery Co., 1405 S. Division Ave., Grand Rapids, Mich.

For additional data, request item H-103, using business reply card on page 208.

Spiked Apron Magnetic Separator

A recently developed spiked apron magnetic separator specifically designed for textile applications is a completely packaged unit ready for installation. "Spike," as the separator is named, will halt tramp iron traveling in the processing lines of cotton, waste, and woolen mills. The magnets used are made of Alnico V and have extremely high pulling power, according to the manufacturer.

Maintenance is simple; cleaning is easily accomplished by using the lift handles to swing back the magnet. Separator is fully guaranteed against loss of magnetic strength for the life of the unit on which it is installed. Available in sizes to fit any feeder.

Eriez Manufacturing Co., Erie, Pa.

For additional data, request item H-101, using business reply card on page 208.

Two Electric Counters

Except for size, two new electric counters are identical in design and appearance. The smaller, identified as the "Y" Electric, is for light applications where reading is done at close range. It measures 1⅜ inches wide, 2 9/16 inches high, and 3¾ inches long, and will operate at speeds up to 1000 counts per minute. The second unit is the "CS" Electric for heavy industrial applications, and it features larger figures for distant reading. Dimensions are 2⅜ inches wide, 4 7/32 inches high, and 5 inches long, and the speed is up to 800 counts per minute. 110-volt, 60 cycle a-c power requirement. Capacity, six figures; resettable.

Durant Mfg. Co., 1973 No. Buffum St., Milwaukee 1, Wis. (H-501).

Non-Melting Grease for "Hot-Spots"

A lubricating grease has been developed for use on either plain or anti-friction bearings in all locations in industry where both "cling" and lubricity of the lubricant should be maintained despite high operating temperatures. Known as "Kantmelt,"

(Continued on page 165)

A. E. O. Hosiery Mending Iron Provides Controlled Heat

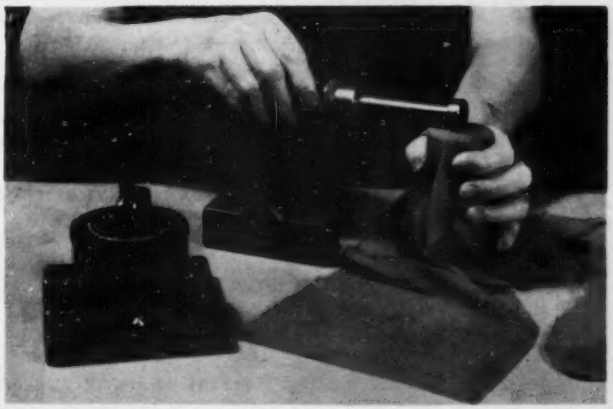
Used in conjunction with the scratch method of eliminating runs in knitted fabrics made of thermoplastic yarns such as nylon, the A.E.O. hosiery mending iron (shown here) in a single pass over the surface of a mend completely eliminates the scar left in the fabric as a result of the mend, the manufacturer claims.

The operator simply sets the control of the rheostat on a number corresponding to the denier of the yarn from which the fabric is made, and the iron is brought to the correct temperature for working with that particular yarn and held at that temperature as long as it is required.

Increased production and manufacture of a larger number of first quality stockings are benefits that are said to be obtained where this device is utilized.

Eric Burger, 5929 N. Mascher St., Philadelphia 20, Pa.

For additional data, request item H-106, using business reply card on page 208.



The Dayton Thorobred Pickers

Here are the two outstanding pickers on the market today —the regular Dayton Thorobred Picker, and the red-headed Super Picker. Since their introduction, extensive mill service has proved what field tests showed: that these pickers consistently outlast other makes, often by as much as 2 to 1!

Both incorporate improved design features, such as rounded front edges that eliminate hanging filling; narrow back that permits free non-wear on lay-in strap; flared bottom that makes picker stick easier to apply. Because they outlasted others two to one, they often cut down-time in half, increased cloth production. Made shuttles last longer, too, because the pickers run cooler. Can be used for high-speed and standard speed looms.

The Super Picker is one of the finest pickers in the world today, and will outpick any ordinary picker on the market.

Pick of the peach crop *are the young women that fill out the bathing suits and other wearing apparel that Dayton products help manufacture.*

DAYTON RUBBER COMPANY, DAYTON 1, OHIO

THE GREAT "BIG LUG"

This is the lug strap—the Dayton Thorobred Deluxe—that in recent tests reported with three other types of strap, outlasted every one. Built-in cushion protects cam points and picker sticks. Unaffected by temperature and humidity changes.

Dayton Rubber

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

Shorts and Remnants

Neps, Neps, Neps

". . . practically impossible to keep (neps) at the minimum, as well as the small amount of seeds and leaf which are still in the sliver after being carded with 110s wire on the cylinder and 120s wire on the doffer . . . please, have you any suggestions about the removal of the small amount of seeds and leaf . . . also send us a complete nep control system . . . how to count the neps. . . ."

CANADIAN MILL

► A big order that is difficult to review even in a whole issue of TI. Subject has been covered in a number of articles. A reprint of "A Review of Literature on Neps" as published in TI is good starting point. Also see feature article "Nep Count Reduced by Opening and Picking Changes," beginning on page 98 of this issue.

Cotton in Tricot

". . . please send to me 12 reprints of 'Cotton in Tricot Knitting' by Lyle E. Hessler and Herbert E. Kieke as published in April edition. . . ."

► Reprints available from Lyle E. Hessler, Texas Technological College, Lubbock.

Wool Carding

". . . in your April '51 issue there is an interesting article by W. J. Crofts on 'Wool Carding—Ways to Control Evenness.' Would it be possible to purchase reprints? . . ."

BRUCE JACKSON
Galt, Ont.
Canada

► Sorry, no reprints on this one.

Heat and Productivity

"At various times . . . have tried to find some written references dealing with the effect of heat on productivity. It seems reasonable, to me, that since the human body is a 'heat engine' it must have an optimum range of temperature during which it operates most efficiently. Employees are anxious to open all of the windows in order to keep as cool as possible and this immediately raises problems with the humidity which cannot be maintained with a large number of open windows.

"I have seen a few scattered references to the air conditioning bill which is under discussion for your southern mills and I presume that there must have been reams of evidence gathered by both sides on the question of the effect of heat on the productivity, health, and comfort of the mill employees."

FOREIGN

► Employees do like to open windows; reams of evidence have been collected; sources of reams given.

Pinnacle Splices

"Your December 1950 issue contains 'Splicing Plied Yarns' which was of interest to us. Would appreciate three clip sheets. Please advise cost."

J. A. RUTLEDGE
Superintendent
Pinnacle Mills
Easley, S. C.

► Mills occasionally need extra copies of an article. When no reprints are available, clip sheets are forwarded without charge so long as the supply lasts. At times when demand for clip sheets is large and we cannot supply all needed, one set is sent (along with permission to reproduce).

More on Waste

". . . in October 1948 issue . . . article 'Waste Reduction and Control' by Ben H. Crawford . . . if any reprints available would like to get six copies.

"Also in your November 1950 issue you carried an article titled 'How Joanna Reduced Waste' by Joseph L. Delany . . . would like to get six copies."

W. H. TAYLOR
Gen. Supt.
Pelzer (S.C.) Mills

► Demand has been great for articles on waste. Only few reprints still available.

Glass Fabric

"In your January 1951 issue . . . . had an article 'Dyeing, Printing and Finishing & Weaving' of glass fabrics . . . . kindly send me a reprint."

► Sorry, no reprints available. Copies may be secured by Photostat from Biblofilm Service, U. S. Dept. of Agriculture Library, Washington, D. C.

QUICK NOTES FROM A QUICKER TRIP

Neither he (mill man) nor editorial rep had much time, but both wanted to have a look-see at the new Super-Jet just starting up—notes on way across mill:

Special roving box with compartments for returning and identifying bad work . . .

Patented roving bobbin stripper so designed that bobbins cannot be damaged; feeds waste to bin for immediate reprocessing. . . .

Compressed air roving bobbin stripper feeding stock into barrel. . . .

Handy lap scale at picker permits operative to doff, weigh, and rack laps in single operation and no lost motion. . . .

Mill-made roll feeding intermittently into picker hopper for rerunning bad card laps. . . .

New type machine for strapping bales of cloth in hurry. . . .

Hoods on nappers to control dust and lint; very clean napper room. . . .

Drawing frames running 10 ends up. . . .

Device on loom for extending time warp is exposed to room humidity. . . .

Changeover per foreign patents using new beater and draft modification on conventional picker. . . .

(All good stories! To come later? Depends on won-loss record of favorite baseball pitcher.)

True Alignment

Look at a Textile Spring-Beard Needle. See the perfect straightness of stem, side, back and beard. And Textile Needles remain straight and true.

Straightness is one of the many advantages you receive through Textile's quality controls — automatic and electronic—which constantly check each stage of production. You get better performance in more even stitches and lower production costs.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full Fashioned Knitting
For Warp Knitting

What Is Radiant Heat?

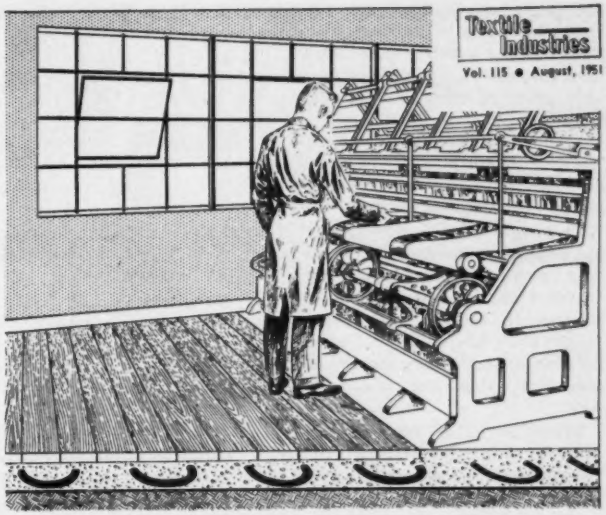
HEAT RADIATION is a wave process.

The heat energy transferred by radiation is transmitted from one place to another by waves of exactly the same type as radio or light waves. The difference between these rays is solely one of wave length.

All bodies at temperatures above absolute zero radiate heat. They will be cooled if they absorb less heat energy than they emit. If they absorb more radiant energy than they emit, they will become warmer.

These waves will flow freely in any direction until they hit an obstruction. Consider the case of a shadow cast by a wall. The sun's rays are blocked by the wall. The vicinity of the shadow is cooler than the sunny area. Yet, air temperature is the same in both places.

The basic difference between radiant heat and other forms of heat, such as convection and conduction, is that the mechanism of heat transfer does not depend on the presence of a medium.



HOT WATER IS CIRCULATED through coils of steel pipe embedded in the concrete floor slab at Kulpsville Hosiery Mills, Inc. The slab acts as a radiant heating panel, emitting warm rays which produce a uniform temperature from within a few inches off the floor to the ceiling. Smaller diameter pipes are laid beneath knitting machines in order to compensate for heat generated by the machine itself while in operation.

Radiant Heating System

facilitates full-fashioned hosiery manufacture

RADIANT HEATING methods have traveled a long route since the days of their first crude implementations. In the Dark Ages, the more ingenious householder heated his abode by means of hot stones. These stones were baked in charcoal and then placed in strategic spots around the interior. Serving as a reservoir of heat, the stones emitted warm, comforting rays which protected the inhabitant against the rigors of night.

Contemporary radiant heating plants utilize much the same principles. There the resemblance ends. It is infinitely more effective than its medieval prototype. Controlled by electronics and incorporating modern engineering features, radiant heating now provides draftless, dustless, and constant temperature interiors.

Staff Prepared

EXCLUSIVE

Kulpsville Hosiery Mill, Inc., of Kulpsville, Pa., early visualized its application to full-fashioned hosiery manufacture. This mill became one of the first knitters in the country to install such a system.

Benefits Knitting. The hosiery machine is temperamental. It must operate in a moderate, even temperature in order to prevent expansion or contraction of needles

A better running plant is only one of the dividends Kulpsville is earning from radiant heat. Savings in fuel costs amount to 30 per cent.

and related parts. Few other precision machines in the textile industry are as sensitive to temperature changes. A few degrees variance above or below the optimum mean temperature in the mill is sufficient to cause some maladjustment among the many thousands of close-tolerance, moving elements of the full-fashioned knitter.

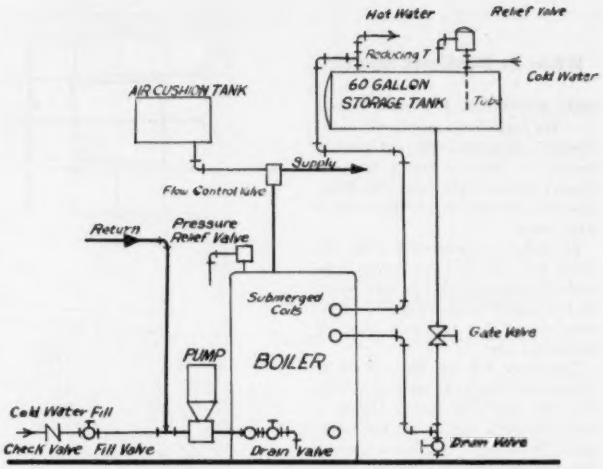
This, probably, is the greatest single factor contributing to knitting mill ailments; down-time, thread dropping, and seconds production. In addition, atmospheric temperature has substantial effect on most of the hosiery ingredients including nylon, size, and lubricant.

There are other favorable by-products of radiant heating. This type of heating does not set up air movement. Thus, transmittal of dust particles to machine components and hosiery in process is virtually eliminated. Neither does radiant heating affect moisture content of the existing atmosphere. Relative humidity tends to remain stable within reasonable limits, and the yarn runs uniformly, giving a minimum of trouble with size stripping. Although the Kulpsville plant has no provisions for air cleaning or humidity control, the use of such auxiliaries is justified to maintain clean yarn and good machine operation where extreme climatic or atmospheric conditions attain.

A better running plant is only one of the dividends Kulpsville is earning from radiant heat. Harry Roesener, manager, points out that a "30 per cent savings in fuel costs is a matter of record."

Heating System. Picture an 8-in. thick concrete slab measuring 7500 square feet. Embedded in it are 4200 lineal feet of piping which form a closed circuit. About 150 gallons of water at 120 F flow through the pipes. The slab's surface temperature is 85 F. That, in essence, is the floor of the one-story Kulpsville mill—a giant radiant heating panel.

The heating medium (water) is circulated at low temperature. This contributes to low fuel consumption. Make-up water is hardly ever required. Evaporation is practically non-existent.



BOILER CONNECTIONS for the Kulpsville radiant heating system are shown in this schematic drawing.

The heating panel is an integral part of the structure. Its huge mass, with high thermal capacity and efficient heat transfer characteristics, functions as a heat reservoir.

Since heat rays are continually discharging from the panel, temperature of the plant remains a constant 80 F, plus or minus 2 degrees from within a few inches off the floor to ceiling. The operator as well as the machine benefits from uniform air temperature.

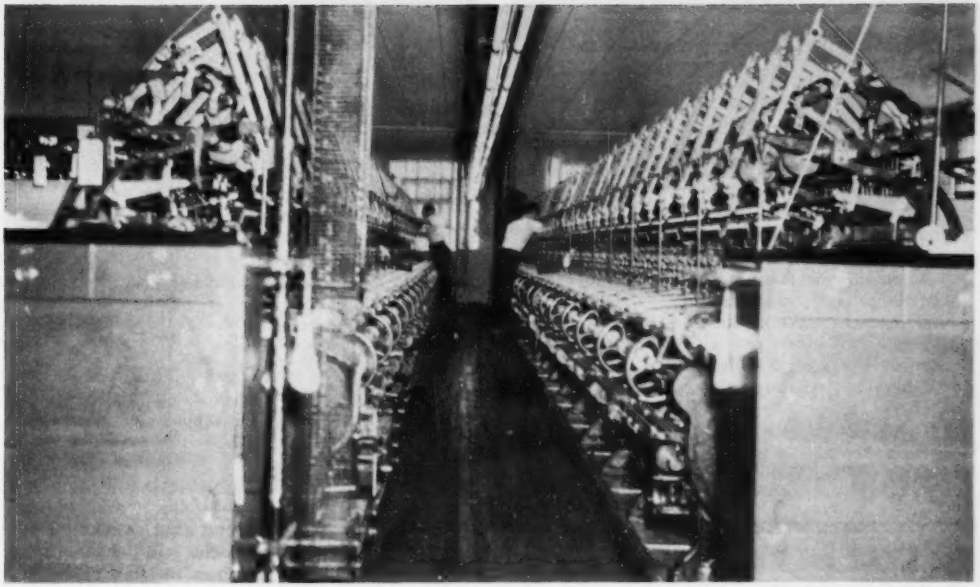
In winter time, a comfortably warm panel dispenses with "cold floors." Yet, the temperature of the radiating floor is so low that the direct effect is scarcely detectable. This phenomena arises from the fact that skin temperature is approximately 93 F, nearly 8 degrees higher than floor temperature. Thus, the net radiation transfer between the occupant and floor is always away from the occupant.

Air is never parched or stuffy. It is warmed up somewhat by contact with adjacent surfaces, though seldom reaching the temperature of these surfaces. However, it is recognized that personnel can be comfortable in cool air if surrounding surfaces are warm. By warming all room surfaces with radiant heat, body heat loss is effectively blocked.

In the former system of plant heating at Kulpsville, unit heaters created undesirable temperature stratification from floor to ceiling. In order to have 74 F at floor level, temperature at shoulder height ran about 85 F. Ceiling temperature hit 91 F. Generally, a relatively high air temperature had to be maintained to insure body comfort and provide a proper warmth for the knitting machines. The greatest amount of heat was concentrated where it did little good—at interior walls and the upper levels of the room.

Radiant heating also brought down erection costs. One-story, basementless construction made possible by radiant heating is cheap. Furthermore, the coils embedded in the floor act as additional reinforcement for the ponderous knitting machines. The concrete slab is better able to withstand weight and vibration. The rest of the building is concrete, brick, and steel construction with glass block on two sides and steel sash elsewhere.

Floor Panel Design. Design of the heating system was not only tempered by architectural considerations, but also, by the requisites of knitting machinery and layout. Knitting machines and motors generate considerable heat when operating. Consequently, the heat load of machine rows and aisle spaces is different.



THE HEAT LOAD of machine rows and aisle spaces is different. To compensate for this variance, the slab forming the aisle is designed as a warm floor band. Running lengthwise of the hosiery machines, ¾-inch piping is embedded in the floor. 1½-inch piping is laid under the aisles, thereby balancing temperatures of the two locations.

To compensate for this variance, the slab forming the aisle is designed as a warm floor band. Running lengthwise of the hosiery machines, ¾-in. piping on 12-in. centers is embedded in the floor beneath. 1½-in. piping is laid under the aisles. The larger diameter pipes emit a greater quantity of heat, thereby balancing temperatures of the two locations.

With the same idea in mind, all other floor panels were designed by the Btu method, taking a heat loss for each zone. Areas with greater heat loss (windows, doors, other exposures) have greater concentration of pipes to provide a higher thermal delivery. Three separate zones, each with circulator and complete instrumentation, furnish heat for the entire plant.

Work on the panel commenced when foundation, walls, and roof structure were up. Part of the pipe network was shop fabricated. The major portion was assembled in the field. Pipes were laid out on leveled-up earth which was first moisture insulated with two layers of 10-pound felt paper. Concrete bricks were used for transverse supports of the pipes, bringing the plane of coils horizontal 3 in. above ground surface. Joints were gas welded and the system then field tested for leaks at 350 psi. Plumbing and water lines were roughed in, followed by an

Designing a radiant heating panel is simple!

Here are some easy-to-follow suggestions offered by the Bethlehem Steel Company.

- Establish a desired temperature level within the mill.
- Specify size and location of the radiating panel.
- Compute Btu losses due to air infiltration and through unheated surfaces.
- Find the average radiant temperature of the unheated surfaces.
- Determine the radiating panel surface temperature required to deliver sufficient heat to the room to balance losses figured under Step 3.
- Find the average radiant temperature of all interior surfaces, including the radiating panel.
- The combined effect of air temperature, mean room temperature, and other assumed factors on comfort (effective temperature) must be neither too high nor too low for the type of physical activity in the building. If so, assume a higher or lower air temperature, repeating the first five steps.
- The remainder of the problem is to deliver enough heat under sufficient pressure to maintain the surface temperature of the panel.

Simpler Price Control System Proposed by Cheney

A "simpler and far less costly" system of price controls that would not "promote black markets or restrict production" was proposed by Roy A. Cheney, president of the Underwear Institute, in his report to the 85th annual meeting of the institute in Washington, D. C., recently.

A simple law stating that a distributor or manufacturer may take any three months, for example, of a given year as his base period for his costs and for his mark-ups, was suggested by Mr. Cheney.

Then, periodically, the distributor and the manufacturer could increase or decrease his ceilings to conform to the net increase or decrease of the cost of his materials and labor and all of his other costs, he said.

These findings would be reported to a central body, which would be empowered to make investigations and bring violators to justice through the Department of Justice and the regularly constituted courts.

"This is the true American way of doing things," Mr. Cheney said, adding:

"It would do away with a tremendous and costly bureaucracy . . . and would not permit the building up of all these orders which tend to put business and distribution in a straight jacket."

8-in. slab poured in sections. Expansion joints were provided between sections.

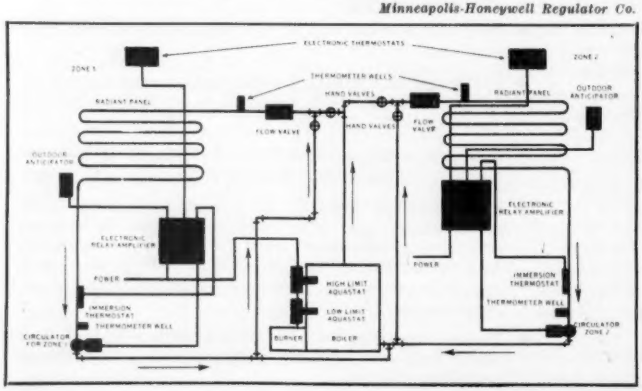
Pipes, specially designed for radiant heating, were supplied by Bethlehem Steel Co. Called Rayduct, these pipes are extremely ductile and have practically the same coefficient of expansion as concrete. They are made by the continuous weld process from a low carbon open hearth steel of extra low metalloid content. Pipes are bent cold and close-coiled in the field without annealing or need of filler.

The danger of frozen pipes resulting from a winter-time boiler shutdown is remote because of the relatively high thermal inertia of concrete. Corrosion of the steel piping is inconsequential. With a closed system, the only corrosive action taking place is that caused by the original water. This is completed in the early life of the installation.

Aisles are floored with hard wood. The concrete surface directly beneath knitting machines is covered with sheet metal drip pans.

RECOMMENDED INSTRUMENTATION is presented in this typical layout of an industrial floor panel radiant heating system. Two zones are served. Note the outdoor anticipators at extreme left and right.

Minneapolis-Honeywell Regulator Co.



Controls. A cast iron ten-section Peerless oil-fired boiler furnishes water for the panel, and submerged coils provide domestic water. Boiler temperature is regulated at 140 F.

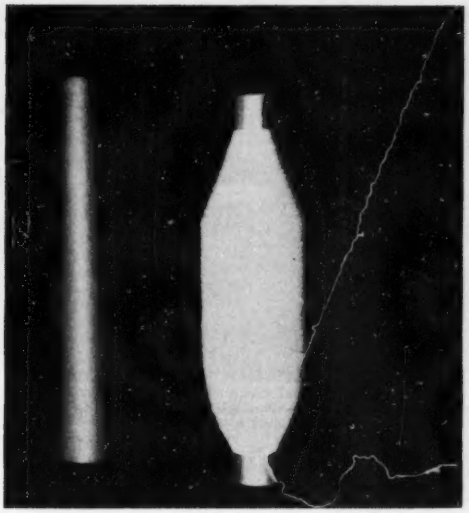
The three zone circulators are each 1/6 hp. Boiler water is bled through a 3-way valve to the circulators so that temperature on the outgoing leg is 120 F. Return leg water is usually 90 F. Circulators begin pumping in accordance with inside and outside temperature decline as measured by instruments.

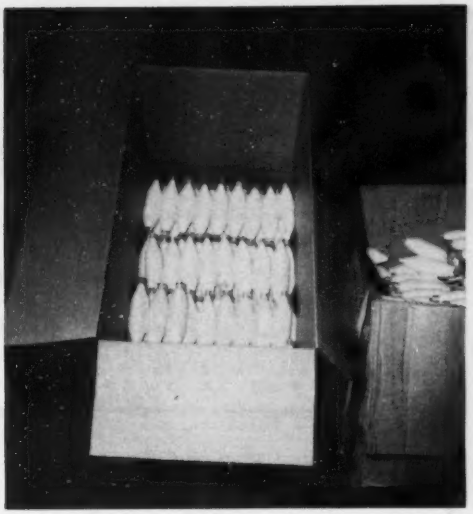
"Anticipatory" controls are the key to accurate heat balance within the mill against outdoor weather changes. A floor panel is inherently sluggish in responding to load changes. A panel embedded in concrete is not going to emit energy the moment hot water flows through it. Nor will the panel stop emitting when the flow ceases. In order to cancel this tendency, the Kulpsville plant is equipped with a modulated control system which will prepare the plant in advance of outdoor temperature changes.

The modulated system includes an outdoor anticipator for measuring the external load posed by outdoor temperature changes and a room thermostat to modify the action of the outdoor anticipator according to changes in internal load (heat generated by machines, week-end shutdowns). Both sensing devices act only upon changes in heating load. However, heat is continuously being lost from the structure. A cycler, which causes frequent minimum operation of the circulator, compensates for these heat losses.

The outdoor anticipator corrects for the faster rate of heat loss when the outdoor temperature is dropping. It automatically raises the indoor control point to maintain the desired level.

A thermostat located in each zone has sufficient authority to adjust for internal loads not sensed by the outdoor anticipator. Mounted in the return line of each zone panel is an immersion thermostat. This device allows the panel temperature to rise just enough to offset the change in heat load as sensed by the outdoor anticipator.





EXPENDABLE BOBBIN'S SIZE AND SHAPE may be seen in the photo of the empty and full tubes at the left. Note long tail at base of full package; it is used for magazine creeling. Right, yarn on one-time-use carriers being packed for shipment to one of Veteran Mills' customers.

Georgia cotton yarn mill uses

"Throw-Away" Spinning Bobbins

SINGLES YARN destined for certain customers of Veteran Mills in Calhoun, Ga., is being spun on "throw-away" type thin-walled paper tubes. As a result, yarn is taken from the spinning frames, packed in cardboard containers, and shipped directly to the customer, eliminating a costly winding operation which was formerly required to transfer the yarn from spinning bobbins to cones or tubes as specified on the order.

Known by its manufacturer as a one-time-use carrier, this inexpensive tube was developed by American Paper Tube Company in response to a request from C. M. Jones, Veteran Mills president and manager, for a low-cost, lightweight tube without metal shields at the base or tip.

Doffers find that when using these expendable bobbins it is necessary to push the tubes down onto the spindles due to their light weight. Consequently, a little more time is required to doff frames when these bobbins are used.

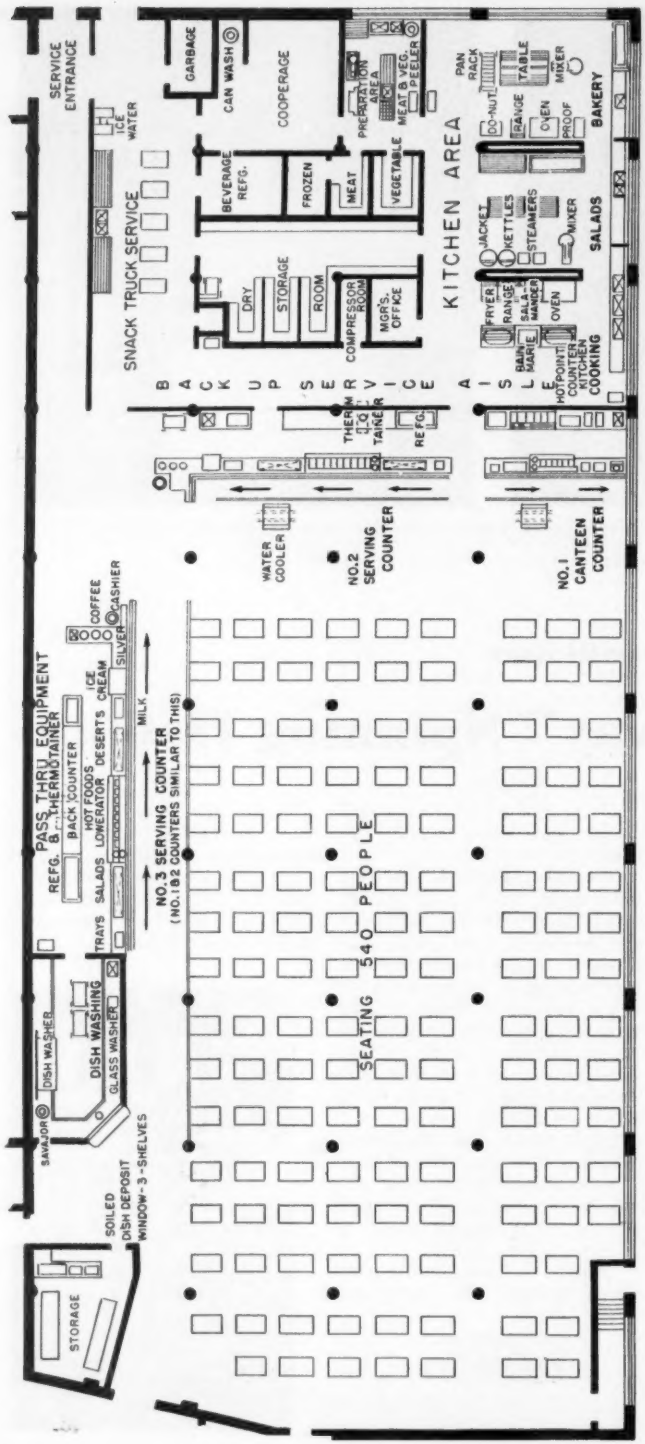
When piecing-up ends after doffing a frame, doffers place the end of the yarn between the bobbin and the sheath of the spindle so as to leave a tailing for use in magazine creeling in subsequent processing. To prevent these tails being broken spinners are forbidden to lift the bobbins from the spindles when putting up ends that come down while the bobbins are being filled (see photo at right).

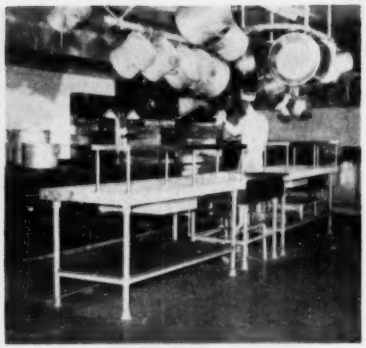
Tubes being used at Veteran Mills are 10⅜" long, shaped to fit a conventional No. 6 New Era spindle. Frames are Saco-Lowell 3" ring, 9" stroke, spinning 4s to 8s cotton yarns.

"Most of the tubes can be used ten or 12 times," Mr. Jones said, even though they were designed for one-time use. He has an agreement with some of his customers whereby they return the empty tubes to his mill for re-use so long as they are serviceable.

EXCLUSIVE

Staff Prepared





KITCHEN AREA is neat, functional, and clean. Exhaust ducts are provided over all equipment giving off heat or steam. Air is completely changed every three minutes.

Good,

Staff Prepared

EXCLUSIVE

HANES Hosiery Mills Co., Winston-Salem, N. C., has satisfactorily solved a problem which has long plagued many industrial plants. How can a mill serve a large group of employees good, hot meals without going into the restaurant business?

Hanes manufactures seamless hosiery and has no desire to go into the catering business; however the advantages, to both the company and the employees, were so obvious that the management felt something should be done to provide meals which were not available in the mill area.

The solution to the problem was found in the use of an industrial caterer—the Harding Williams Company, of Chicago, Ill. The program in operation at the Hanes

THE CAFETERIA DINING AREA is attractive and comfortable, with a capacity of 540 persons. Note the air conditioning ducts, fluorescent lights, and public address system speakers in photo at left. Typical mealtime serving counter scene is presented in photo at right.

Hot Meals Served Attractively

by an industrial catering firm

Hanes Hosiery Mills Co. has found a highly satisfactory way to feed its employees without going into the restaurant business.

mill may be suited to many other mills. Using the services of this firm, Hanes is able to confine company activities to knitting hose—at the same time, mill employees are served good food at minimum prices.

Until three years ago, the employees at Hanes Hosiery either brought their own lunches or purchased sandwiches, crackers, or soft drinks from a canteen wagon. Most employees ate their lunches in the area in which they worked. Under these conditions, maintaining cleanliness was difficult, and no opportunity was available for a change of scene throughout the work day. Although this arrangement could hardly be classified as sub-standard, management realized that many advantages would accrue if there were a good dining room on the mill grounds.

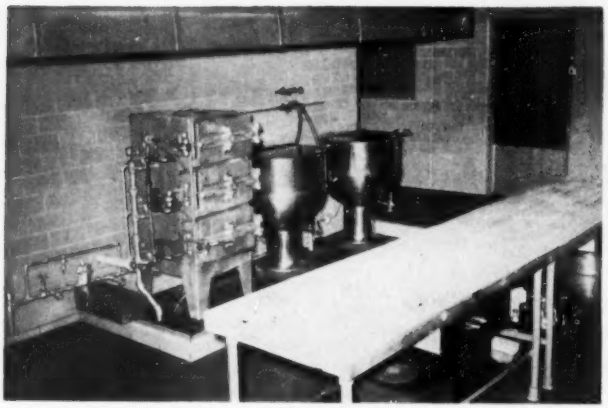
A large ground floor room, about 85 x 185, was cleared and a complete kitchen, and a cafeteria-type dining area were set up. Excellence of design and wise selection of equipment make it one of the finest industrial cafeterias in the country. In fact, in a recent national competition for design, layout, and equipment, this cafeteria won a merit award.

Hanes Hosiery did not attempt to operate the cafeteria. Instead, they contracted with Harding Williams Company to operate it for them. This firm is experienced in industrial catering, and it can, because of this experience in food preparation and purchase, operate a cafeteria or restaurant more economically and serve better food than could an industrial plant trying to manage an operation foreign to its field, according to Hanes.

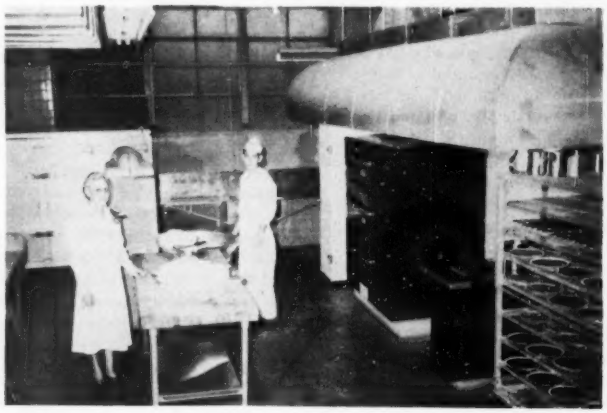
The contract provides that Hanes Hosiery furnish dining and preparation area and all equipment. Hanes also maintains all equipment and supplies utilities. In other words, the physical plant is furnished and maintained by Hanes, and Harding Williams employees purchase the food and prepare it. They also serve the cafeteria counters and collect the money. Monthly accounting is rendered showing gross sales, less food cost and all expenses, including management fee. Profit or loss is assumed by Hanes, but the operation is on a non-profit basis. The cafeteria is intended to operate at actual cost, but a reasonable operating loss is permissible. The result is that the Hanes employees receive quality food, prepared by experts, at non-profit prices.

Facilities. The food preparation area occupies approximately a

SHORT ORDER kitchen is used for breakfast and service when the main kitchen is closed.



STEAMER, soup kettles, and other facilities in the salad area are arranged for efficient operation.



BAKERY in the kitchen area is fully equipped to make an ample supply of bread and pastries.

third of the whole cafeteria floor space. The general layout can best be understood by a study of the plan view, but there are many details of design which account for the excellence of arrangement as a whole. For example, a small area (upper left on the plan) marked "Garbage," is a refrigerated space in which all garbage is kept until it is collected. The can wash next to it is a combination steam and hot water unit which not only scours but practically sterilizes a garbage can placed on it.

Four separate walk-in refrigerators, each maintained at a different temperature, are available for vegetables, meats, frozen foods, and beverages. The meat and vegetable refrigerators open directly into the preparation area, which is equipped with a meat saw, grinder, vegetable peeler, and other equipment required in making these foods ready for cooking.

The kitchen area proper is divided into three sections: cooking, salads, and bakery, each being fully equipped to do the required jobs. Immediately in front of the kitchen in the space behind the serving counter is a special short-order kitchen which is used for preparing and cooking breakfasts and other light meals which are served when the main kitchen is not in operation. This short-order grill is more fully equipped than many small restaurants.

Food is moved from the kitchen area to the serving counters through either a wall type refrigerator (with doors on each side) or a Therm-O-Tainer, which is of much the same design but keeps food hot rather than cold. These are located between the back-up service aisle in the food preparation area and the rear of the serving counter aisle. Kitchen employees open the doors on their side, slide the food in, and the girls serving the counter reach in from their side and take the food out as it is needed. A second and similar serving counter is located at the side of the room.

After eating, each person carries his own tray and dishes to a pass-through-counter opening into the dishwashing area. This area is equipped with automatic washers

(*Continued on page* 182)

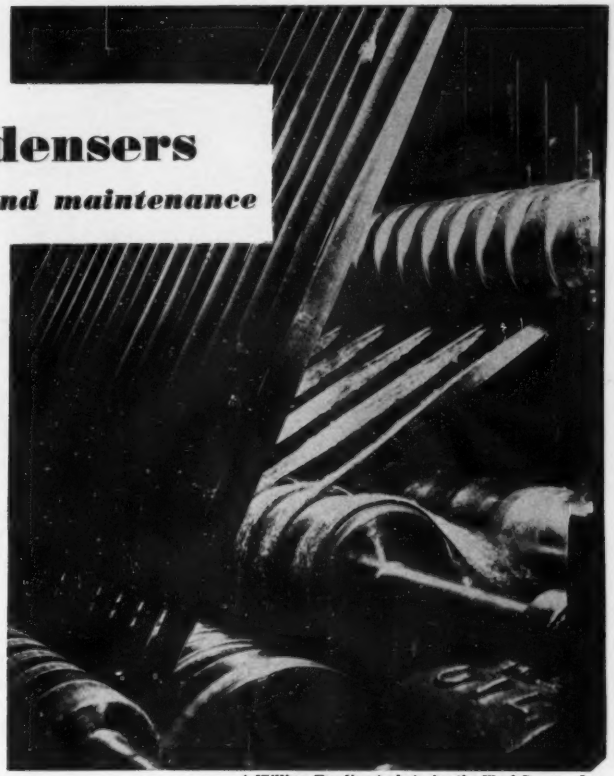
Tape Condensers

operation and maintenance

By W. J. CROFTS

EXCLUSIVE

Part 2*



A William Vandivert photo for the Wool Bureau, Inc.

YARNS with soft twist for knitting will not tolerate uneven condensing, and perfectly even condensing is undoubtedly an advantage on the harder twisted weaving yarns. There will be more uniform tensile strength throughout each strand of yarn with less breakage in the spinning and weaving.

The rubber apron, because of its greater traction and freedom from glazing, is ideal for the single-rub tape condenser. On the double-rub with its high condensing capacity, its multiple rubbing action giving more uniform condensing, the type of apron to use is largely a matter of choice.

Adjusting Rub Aprons. The rub aprons should be set evenly all the way from the back rolls to the front rolls—leather aprons loosely with a No. 26 gauge; rubber aprons with a No. 24 gauge. If the leather or rubber feels warm to the touch, this indicates that settings are too close at some point. Excessive friction is injurious, shortening the life of the aprons.

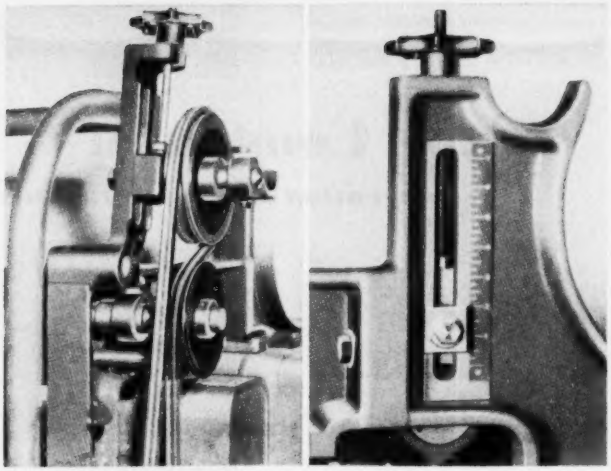
The best practice is to adjust the aprons so that the condensing is equal on all four banks; then increase or decrease the condensing as needed by either of two methods: (1) changing the stroke or (2) changing the speed of the eccentrics. By either method a positive and equal change in condensing is produced at all four banks; whereas re-adjusting the set of the individual banks is not only time consuming but may also give results that are not uniform.

An ideal arrangement is to have the eccentric drive pulley located on the outside end of the card main shaft where changing the size of the pulley may be easily and quickly accomplished. If the stroke of the eccentrics is 1¼ inches long and less condensing is needed on a certain type of stock, the carder can in a matter of twenty minutes shorten the stroke to one inch. This gives all four decks a positive reduction in condensing of 20 per cent.

Rubbing the slivers into smooth, round roving ends has a direct bearing on the strength and smoothness of the spun yarn; but, because of the variety of and the wide variation in the nature of the fibers used, no arbitrary rule can be established. In general, soft twist yarns usually require a more softly condensed roving. In any case, the roving should be round—

*Part 1 of this article appeared in the July, 1951, issue, beginning on page 82.

BUILD of each roving end is governed by the speed and length of the traverse of the guide fingers. For one complete revolution of a 5-inch spool drum, the traverse should make one complete vibration or journey back and forth.



ROVING DRUM DRIVES on modern tape condensers are designed for easy adjustment of roving tension on the individual spools. Drums on the Whitin tape condenser are driven by means of a V-belt with adjustable sheave pulleys (left photo) on each drum shaft. Scale for setting the V-belt pulleys is pictured at right.

never flat—and free of soft spots.

Any thin or hard rubbed spots in the roving take the twist quickly, leaving the softer places with less twist and tensile strength. On some blends a boost of 20 per cent in the condensing will boost the tensile strength of the yarn 20 per cent, allowing for a desirable reduction in twist if a soft, yet strong, yarn is desired.

Centrifugal force created in spinning tends to make the individual fibers fly outward from the surface of the yarn. The spongy, curly wools—especially the 56s wools or stocks of that grade—must have ample rubbing to control this tendency to expand if a compact and strong yarn is desired.

If the roving is evenly condensed, yet too soft, the yarn will be fuzzy and rough. Finer, shorter wools and re-worked stocks lend themselves readily to condensing and usually require less rubbing. In all cases the carder should cooperate closely with the spinner on the amount of condensing necessary to produce the very best results.

Coarse-fibered roving requires more condensing, and rubber aprons are best for these yarns. One universal objection to rubber aprons is that when the card is running empty during the vacuum stripping operation, the eccentric belt labors and runs hot. The solution is simple—take the eccentric belt off while stripping and do not replace it until the web comes in between the aprons to act as a series of rollers and reduce friction. A good rule for both leather and rubber aprons is: *never run a condenser empty with the eccentric belt on the pulleys.*

Rubbing Rayon-Wool Blends. Rayon blends require less condensing, and if rubbed too hard they will not draw out without excessive breakage at the spinning frame; yet the roving must be smooth and round in order to get the maximum tests with a minimum amount of twist. Setting aprons more open and increasing the eccentric speed result in production of a smoother, round roving.

These rayon blends usually will withstand higher production speeds. So if a spinner complains that the roving is excessively condensed, increase the production—a 20 per cent increase in the speed is equivalent to a 20 per cent reduction in condensing.

Prevent Tapes and Aprons Drying Out. The amount of oil used in emulsions has been reduced in recent years; consequently, tapes and aprons—especially those made of leather—dry out, with the result that condensing is reduced. To prevent this, oil pipes are used to a limited extent.

These are ordinary pipes or tubes about 1½ inches in diameter with several rows of very small holes running the entire length. A layer of heavy woolen cloth covers the entire pipe, one end of which is closed with a pipe cap. This cap can be removed for re-filling pipe with oil which seeps out of the holes and saturates the cloth. These rolls are substituted for one or more of the scavenger rolls. Contacting the tapes, the roll continuously smears a small amount of oil on them and they in turn pass it on to the rub aprons. On a double-rub condenser if four oil pipes are used one can be placed on each deck in the space between the aprons where it will roll very nicely.

Only a good grade of apron oil should be used. The small amount of oil has no appreciable effect on the roving weights and keeps the condensing more uniform throughout the lot. Use of these pipes is especially valuable on blends that must be run with small amounts of emulsion.

The Broken End Problem. Rub aprons on the two bottom decks get rougher treatment than those

on the top decks. Broken ends from the top fall down to the bottom, and the outside and waste ends wind around the ends of the lower apron rolls if the attendant is not alert. Most apron damage is caused from hard laps forming on the roll shafts, stretching the ends of aprons and sometimes breaking out the buttons. Small bits of roving from these laps work along inside the apron, exerting heavy pressure at one point of the apron surface and causing permanent damage.

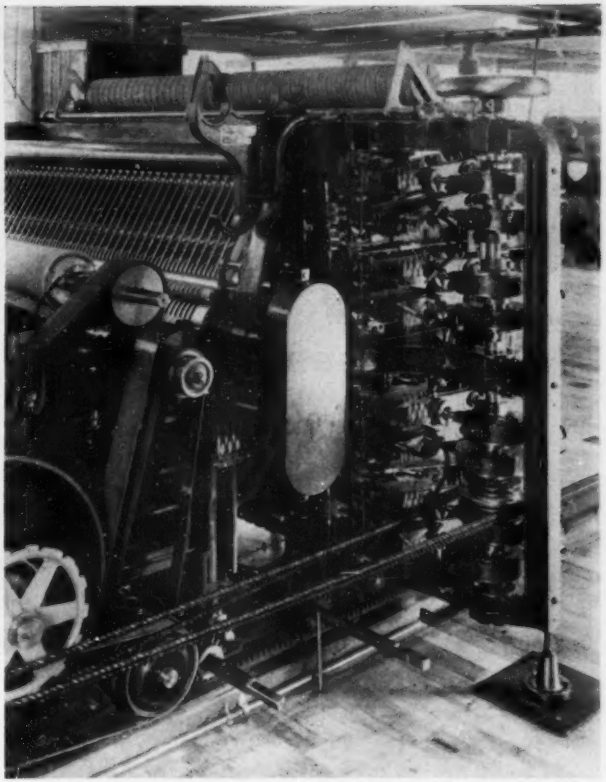
Broken end catchers, either wide sheet-iron pans or a revolving roll under the delivery end of aprons, are good. Another device is a long metal pipe with an open slot along its length located directly over or under the roving ends. A strong suction is provided to pull in any broken ends and convey them through the waste end conveyor pipe back to the feeder.

Static Electricity. The aprons generate static electricity in cool weather. When picking up the ends after stripping, those on the bottom deck cling to and follow the underside of the bottom apron, thence up the rear of the tapes, and back through the dividing rolls. This breaks the ends on the top decks and if not stopped often jams the tapes.

Operators should be instructed and trained to always pick up the ends of the bottom deck first, or throw all these ends up over the top apron on the deck and allow them to wind around the apron temporarily.

Wrinkled Aprons. Wrinkles or waves in the surface of a rub apron cause a series of hard and soft spots in the roving which, of course, is very objectionable. The waves are usually the result of the apron being too tight at one end. The tension should be adjusted as loosely as possible without danger of excessive slippage.

When installing new aprons it is best to install them in pairs, as old aprons breaking at the buttons often hopelessly damage their twins. If the twin is a comparatively new apron, the loss and expense are greater. Two used aprons, if in fair condition, can be paired and installed at another time.



PROPER LUBRICATION is essential to efficient tape condenser operation. A centralized lubrication system has been installed on this Duesberg-Bosson condenser to insure adequate lubrication of its many bearings. Lubricant injectors with copper tubes leading to the points of application may be seen in this view of the eccentric side.

The condenser consumes considerable power and because of its many bearings — approximately 130 on a double-rub—careful and adequate lubrication is essential.

Some of the causes of the eccentric drive laboring or running hard are rub aprons set too close together, tension too great, or rub roll gears too deep in mesh. This is evidenced by the aprons or gears feeling very warm to the touch. On the production drive any gears too deep in mesh, chains too tight, or any improperly adjusted bearings will place a heavy drag on the production belt.

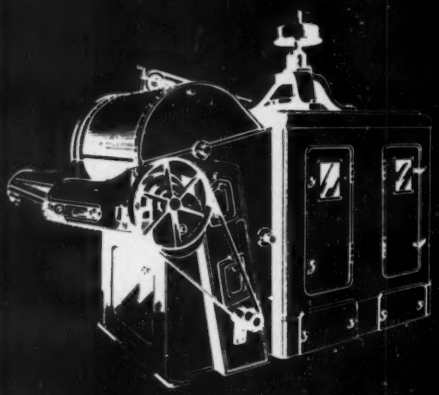
Avoid Tape Slippage. To prevent excessive fluctuation in roving weights, tape slippage must be avoided. The four rub aprons contacting the tapes must just touch the tapes without undue pressure.

If tapes become heavily coated with greasy dirt, set the bottom apron on hard at stripping time and give a generous oiling, releasing the apron pressure when resuming production.

The six tape rolls next to the rub aprons should be checked often to be certain these idler rolls turn freely in their bearings. Any drag by any one of these six rolls will cause tape slippage.

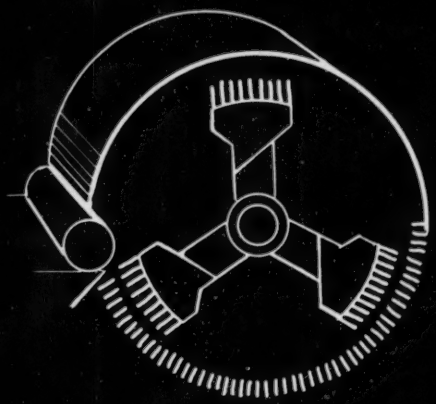
Needless to say, the condenser is a delicate mechanism. If properly constructed, adjusted, and kept in good repair, it will deliver roving in a highly satisfactory condition for the spinning operation to follow.

Removed vertical opener from line—



Neps reduced to: 5½ per grain

Reduced picker beater speeds to 550 rpm—



Neps reduced to: 3½ per grain

Nep Count Reduced

EVERYONE is familiar with the fact that no two mills can be run exactly alike. The experience we have had in controlling neps, though giving good results at our plants, may or may not produce the same results at another plant which operates under a different set of conditions.

In an effort to reduce neps, several preliminary tests were run which seemed to indicate that neps were increasing as the stock passed through each process [see article "Mill Performance Charts," TEXTILE INDUSTRIES, Oct. '50, pages 100-105].

The Bale Stock Test. Therefore, cotton samples which represented an average mix were taken from the bale and run directly on the card, making by hand a sheet about the thickness of a lap. The neps were counted and compared with the neps from the regular stock which had been run through the opening and picking processes.

The stock which had been processed in the conventional manner gave us 5½ more neps per grain than the stock which had been carded directly from the bale.

Neps Caused by Vertical Opener. Repeated tests revealed that neps could be reduced by removing the vertical opener from the cleaning line. The old hook-up was the vertical opener followed by two No. 12 lattice openers and fed by No. 11 condensers at the rate of 900 pounds per hour.

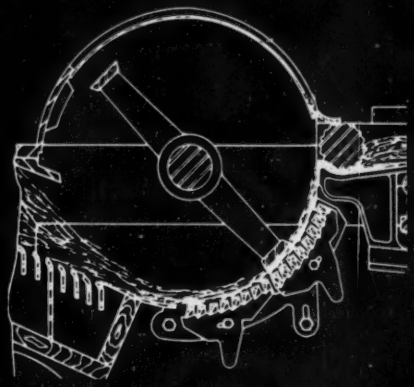
When the vertical opener was removed, the neps were reduced by 1½ neps per grain.

We do not condemn the vertical opener as a cleaning machine because it is doing good work in many mills throughout the country, but we do think it indicates that many of our cleaning machines, including the picker (as will be shown), and much of our preliminary processing cause neps.

Reduce Picker Beater Speeds; Reduce Neps. Reducing the picker beater speeds (both Kirschner and blade, two back blade beaters and front Kirschner) was found to have the effect of reducing neps. We finally adopted 550 rpm as the best compromise; the fan speed of 1100 rpm remained the same.

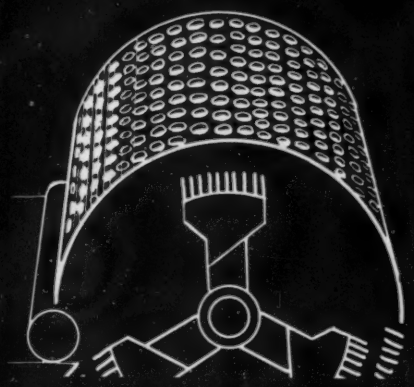
We were attempting to treat the cotton as gently as possible in processing.

Backed off picker feed roll to ½ inch—



Neps reduced to: 3 per grain

Installed perforated bonnet over beater—



Neps reduced to: 2.75 per grain

by Opening and Picking Changes

By **TOM S. HARRIS**
General Superintendent
Russell Manufacturing Co.
Alexander City, Ala.

EXCLUSIVE

Feed Roll to Beater Setting Increased. Further tests indicated that we secured another reduction in neps by setting the feed roll farther from the beater. Originally the setting of feed roll to beater was 3/16 in. We made it one-half inch.

The nep count from the cotton being processed through opening and picking was getting closer to the nep count obtained by feeding the cotton from the bale into the card by hand. Slowing the beater speed and backing off the feed roll had given us a reduction of about two neps per grain.

The picker still was not doing the best possible cleaning job because light motes could be seen being pulled back into the beater chamber after they had been thrown out through the grid bars. These motes which were being pulled back into the beater chamber were caught in the air current created by the fans in the machine.

Perforated Picker Beater Bonnet. This was finally overcome by removing the sheet metal cover on the beater bonnet and installing a perforated metal cover of our own design. The perforations were 3/16 in. diameter; the cover had 51% air space and 49% metal.

The perforated bonnet allowed the air to be pulled through the beater chamber (from the room) and stopped the draft through the grid bars. The clean-out door was blocked up to make it solid and to prevent air passing through it.

At last the motes that were formerly being thrown through the grid bars were not pulled back into the stock.

A further reduction of ¼ nep

per grain was realized, and we also got the benefit of additional cleaning.

After all of the benefits had been totaled, we found by the experiments conducted in the opening and picking processes alone that neps had been reduced from an average of 7 neps per grain to an average of 2.75 neps per grain.

Experiments to Reduce Neps and Results

Steps Taken	Neps per Grain	Neps per 100 sq in.
Neps before experiments	7	44
After removing vertical opener	5½	34.5
After reducing beater speeds	3½	22
After wide feed roll setting	3	18.75
After installing perforated bonnet	2.75	17.17

STA Meets at Blowing Rock

Staff Report

THE SOUTHERN Textile Association's annual meeting was held June 21-23, at Blowing Rock, N. C., the convention headquarters being the Mayview Manor. A registered attendance of over three hundred heard a series of papers at two meetings and enjoyed the floor shows, bingo, and golf.

The Friday session featured an address by Guy B. Arthur, Jr., president, Management Evaluation Services, Inc., Toccoa, Ga., on "How Supervisors Can Use Their Employees' Opinions"; and a technical paper on "The Theory of Carding," by Peter M. Strang, Whitin Machine Works, Whitinsville, Mass.

New Officers and Directors

President: Joseph L. Delany, general superintendent, Joanna (S. C.) Cotton Mills Co.

Vice-President: D. A. Purcell, superintendent Blanket Mill, Fieldcrest Mills, Draper, N. C.

Chairman, Board of Governors: T. I. Stafford, production manager, Clifton (S. C.) Mfg. Co.

Executive Secretary: A. R. Marley, superintendent, Plant No. 2, Erwin (N. C.) Mills, Inc.

Board of Governors (Three-year terms): T. J. Willis, superintendent, Mathews Plant, Greenwood (S. C.) Mills; H. C. Estes, superintendent, Pacific Mills, Rhodhiss, N. C.; J. C. Godfrey, superintendent, Calhoun Mills, Calhoun Falls, S. C.; J. R. Meikle, general superintendent, Rosemary Mfg. Co., Roanoke Rapids, N. C.

On Saturday, William H. Ruffin, president of the National Association of Manufacturers and president of Erwin Mills, Inc., spoke on "The Strength of Freedom." This was followed by a description of the textile industry in Europe by David Clark, of Clark Publishing Co., Charlotte, N. C.

Both retiring President A. R. Marley and the new president, Joseph L. Delany, spoke before the final session.

OFFICERS AND DIRECTORS of Southern Textile Association at the annual meeting held in Blowing Rock, N. C., June 21-23, 1951. Seated: **John M. Reed,** Ashworth Brothers, Inc., Charlotte, N. C.; **J. C. Godfrey,** Calhoun Mills, Calhoun Falls, S. C.; **J. B. Lybrand,** Union Buffalo Mills Co., Buffalo, S. C.; **J. L. Delany,** Joanna (S. C.) Cotton Mills Co.; **D. A. Purcell,** Fieldcrest Mills, Draper, N. C.; **T. I. Stafford,** Clifton (S. C.) Mfg. Co.; **A. R. Marley,** Erwin (N. C.) Mills, Inc.; **Marshall Dilling,** retired, Gastonia, N. C.; **E. C. Horner,** Enterprise Mfg. Co., Coleridge, N. C. Standing: **J. R. Meikle,** Rosemary Mfg. Co., Roanoke Rapids, N. C.; **Walter Vincent,** Dan River Mills, Inc., Danville, Va.; **Smith Crow,** Erlanger Mills, Inc., Lexington, N. C.; **H. C. Estes,** Pacific Mills, Rhodhiss, N. C.; **David Clark,** Clark Publishing Co., Charlotte, N. C.; **Arthur Jarrett,** Highland Park Mfg. Co., Charlotte, N. C.; **James A. Chapman, Jr.,** Riverdale Mills, Enoree, S. C.; **J. L. James,** Erwin Mills, Inc., Cooleemee, N. C.; **J. B. Powell,** Monarch Mills, Lockhart, S. C.

Weave Design Variations

By MAX STEINER
Textile Technologist
Research and Development Lab.
Owens-Corning Fiberglas Corp.
Ashton, R. I.

IN THE SEARCH for weave design variations on shaft work, at times it becomes difficult to design new and different weaves, particularly for low count fabrics where a warp or filling float should not be over one, two, or at the most, three ends or picks.

One of the basic weave patterns for an overall surface effect is the six-shaft sandcrepe or pebble weave. The drawing-in repeat is 66 ends (Fig. A) with a 40-pick filling repeat or chain draft (Fig. B).

Some interesting design variations from the "old-timer" can be made by doubling the number of shafts, which will increase the drawing-in repeat to 132 ends, as shown in Fig. C.

By designing different chain drafts, as shown in Figs. D, E, F, and G, new and different weaves can be created in combination with drawing-in draft shown in Fig. C.

Another variation can be made by drawing-in 12 shafts, as shown in Fig. H, with a repeat of 264 ends.

By using chain drafts D, E, F, G, with drawing-in draft H, additional interesting weave designs can be obtained. Since all these weave patterns are over-all effects, the chain drafts can be started from either direction.

The selection of fabric and yarn counts will have a bearing in the surface effect of these various weaves. However, they will probably fit into some of your mill's present constructions, having similar weave density, and require very little change.

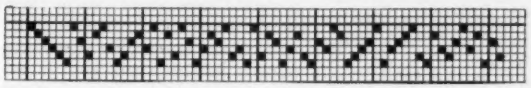


Fig. A. 6 shafts, 66 ends drawing-in repeat.

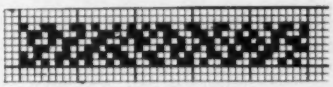


Fig. B. 6 shafts, 40 picks repeat chain draft.

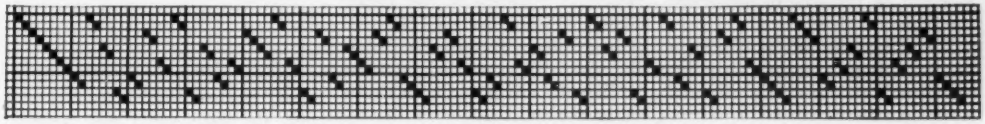


Fig. C. 12 shafts, 132 ends drawing-in repeat.

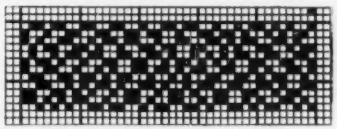


Fig. D. 12 shafts, 40 picks repeat chain draft.

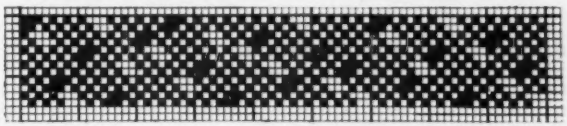


Fig. E. 12 shafts, 72 picks repeat chain draft.

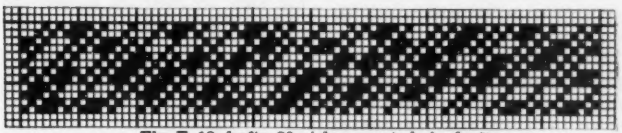


Fig. F. 12 shafts, 80 picks repeat chain draft.

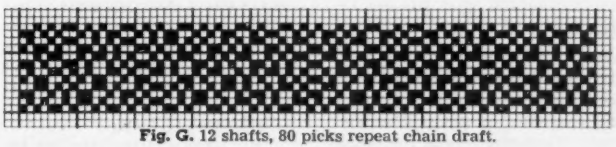


Fig. G. 12 shafts, 80 picks repeat chain draft.

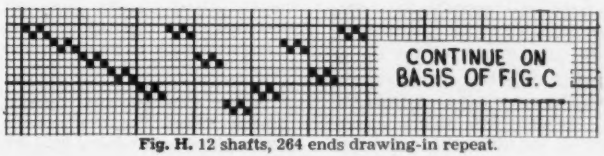


Fig. H. 12 shafts, 264 ends drawing-in repeat.

The Preparation and Bleaching of

Article 2 — Bleaching Methods*

TODAY, there is no longer any one general method of bleaching cotton piece goods. For many years the lime and ash double kier boil followed by the calcium hypochlorite (bleaching powder) solution bleach was the accepted method. In more recent years this bleaching procedure has been superseded by the caustic soda single kier boil followed by the sodium hypcchlorite "chemic" bleach.

Then came the bleaching of cotton and cotton-rayon fabrics in the kier by the hydrogen peroxide or sodium peroxide method. This was commonly called "peroxide kier bleaching." Now, this peroxide bleaching activity has expanded to establish an entirely new approach to bleaching known as the continuous peroxide bleaching range. This latest method is rapidly replacing much of the kier boil types of bleaching.

This discussion will deal with the bleaching methods in use today; namely, the caustic kier boil and chlorine bleach method, the peroxide kier bleach method, and the continuous peroxide bleaching range method, in the order named.

Caustic Kier Boiling

After the desizing process, the cloth passes from the tight strand washer over reels and down through the automatic piler into the kier. During this piling process the drain valves of the kier are left wide open to drain off the water used in piling. When the entire cloth load of about 8,600 pounds is in the kier, the top end of the cloth is secured, the piler is removed, and the excess water is allowed to drain from the kier.

The loaded kier is now about ready for the caustic kier charge liquor. Before putting this liquor in the kier the drain valves are closed, the safety valve is opened, and the spray pipe is screwed into position. The kier liquor valve is opened and the kier liquor, about 3,000 gallons in all made up in an auxiliary tank, is flowed into the bottom of the kier.

While this liquor is flowing into the kier (either by gravity or pump assisted), there will be some raising of the cloth and the rate of flow should be controlled so as not to lift the cloth too much.

Details of Kier Boil. When the liquor is all in the kier, the liquor valve is closed and the lid or "head" is fastened tightly in place over the kier opening. The kier pump is then started and the liquor allowed to circulate until a good circulation is established. The steam is then turned on full force. As the temperature of the liquor gradually rises and the liquor expands, the air is expelled from the kier through the safety valve. When all the air is out of the kier and the liquor, itself, is starting to flow from the safety valve, the safety is closed and the counter weight is attached to the lever arm of the valve.

The steam is left turned on full until the pressure gauge on the kier shows a reading of 10 pounds. It should take about two or three hours to reach this pressure. After once obtaining pressure, the steam valve is cut back and kept in adjustment to feed just enough steam to keep the pressure constant. With the pressure maintained at 10 pounds throughout, the boil is continued for an additional nine to ten hours.

At the completion of the boiling time, the steam feed valve is closed and the kier vents are opened. These vents exhaust the steam from the kier and empty into the basement drains. When the pressure on the gauge drops to zero, the counterweight is removed from the safety valve and the safety is opened by raising the lever arm.

Next, the kier pump is shut off and the drain valves are opened. While the liquor is draining from the kier, the kier lid is removed and swung to one side out of the

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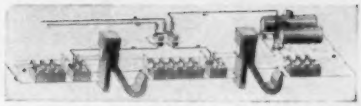
Before describing the caustic kier boiling process, some general information about the kiers, themselves, might be in order. Kiers are made in several sizes and types, and the manufacturers of this equipment are still adding refinements to improve the operation and results obtainable.

The more common sizes are the 2-ton, 3-ton, and 5-ton capacities. The larger bleacheries prefer the 5-tonners; the information given here will apply to this particular size.

Kiers: External and Internal Heater Types. The two common types of kiers now being used are

*For Article 1, see page 98 of the July issue. It covers the history and development of bleaching, influence of the laboratory on the present-day process, clerical work necessary before running the goods, sewing and starting the goods for the kier and continuous bleach range, singeing, and desizing.

Cotton Piece Goods



By A. DURFEE DAMON
General Superintendent
Lockwood-Dutchess, Inc.
Wappingers Falls, N. Y.

way. Then, the kier load is washed down with cold water from the top and this washing process is continued until the water coming out of the drain valves flows clear and clean. The water is then shut off and the kier allowed to drain off well.

Depending on the type of goods being processed, the purity of the processing water, and similar factors, it is the practice of some plants to follow the kier boil with a short scour and second rinse. In the usual run of work this should not be necessary.

After the removal of the spray pipe and the attaching of a demountable roller-poteye over the kier opening, the kier boil is complete and the cloth is ready for further processing. Before proceeding to describe further processing, it might be of interest to pause a few moments and consider the makeup of the kier charge liquor used in boiling the caustic kier.

Formulas for Kier Boil

There are any number of kier formulas in use today; and any two plants processing the same type and weight of cloth in identical kiering equipment would, in all probability, use different kier formulas for doing the same work. Some kier formulas are quite fancy and contain a number of ingredients with catchy trade names, while others are very plain and consist of only a few items.

It is the belief of the writer that it is possible to do satisfactory kier boiling with a minimum of ingredients and thereby operate the kiers as economically as possible. Naturally, the type of cloth being boiled determines, to a great extent, the kier formula used. There is no such thing as an overall formula that will apply to all grades

of cloth. For that reason it is very difficult to give even a general kier formula.

A typical formula for boiling 32" width, 72 x 48 count, 2.58 yards per pound drill cloth would be about as follows:

Percentages Based on 8,600 lb Cloth Kier Load

4% Caustic Soda
1½% Trisodium Phosphate
1¼% 42° Be. Silicate of Soda
.3% Detergent
.3% Tetrasodium Pyrophosphate

Percentages Based on 3,000 gal. of Kier Liquor

1.4% Caustic Soda
.4% Trisodium Phosphate
.3% 42° Be. Silicate of Soda
.1% Detergent
.1% Tetrasodium Pyrophosphate

It will be noted that the kier formula is given in two forms, percentages expressed by weight and percentages expressed by volume, because some plants base their formulas on the weight of the cloth

General Information on Kiers

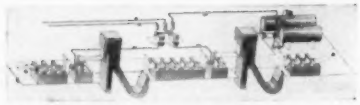
the external heater type and the internal heater type. The Allen kier is an example of the external heater kier; this type is favored by many of the bleachers. Probably as many other bleachers favor the internal heater kiers.

This latter type has the heating coils in the bottom curvature kier liquor well recess under the kier grates. One disadvantage of the internal heater kiers is the fact that a steam leak in the heater coil during the kier boil will release a jet of steam directly into the kier load. This in turn can cause the cloth load to shift position and even turn over. When this happens, a fantastic tangle in the cloth confronts the bleacher when he prepares to run the cloth out of the kier after the boil. An advantage of the internal heater kier is quicker heating.

Mechanical Loading. Practically all kiers are now loaded mechanically with automatic rotary pilers, and hand piling of the cloth in the kier is a thing of the past. Since mechanical piling is suited only to kiers constructed with the main opening in the center of the top of the kier, the old center vomit kiers with their vertical center pipe obstruction and off center top openings are also obsolete.

The automatic rotary piler uses a stream of water fed in from above as the means of propulsion for moving the cloth through the piler and uses a cam mechanism to distribute the cloth-water stream in an even layer pattern in the kier. The even laying down of the cloth during the piling is very important and has a direct effect on the uniform circulation of the kier liquor through the cloth during the boil.

An unevenly piled kier load is susceptible to "channeling" of the kier liquor. Channeling is the prime cause of kier stains. Even the best automatic pilers can stand a little human guidance now and then, especially for "topping off" the kier load.



being processed while other plants base their calculations on the volume of the processing solution. It works out the same either way.

This is an average formula for medium weight goods and with proper modifications could be applied to quite a variety of fabrics. In place of the trisodium phosphate mentioned in the formula it would be possible to use one of several kier powders if desired. The phosphate acts as a buffer in this case.

Silicate Protects Kiers. The sodium silicate is included in the formula for a rather interesting reason. Even though the silicate possesses some detergent power, it is used in this instance primarily as an iron inhibitor and protective agent. The continued use of silicate in the kier liquor charges gradually builds a smooth glassy coating on the interior of the iron kier and the other kiering equipment and thereby inhibits the formation of rust.

By using silicate in this way, it is no longer necessary to line kiers with silicate-Portland cement troweled-on coatings. Silicate also inhibits traces of iron that may be present in the process water.

There are practically any number of detergents on the market, and the naming of any particular product in an article of this sort would be an injustice to all the competitive products. Thus, the simple designation "detergent" is given in the formula.

Chlorine Bleach

To get back to the processing of the cloth—after kier boiling, the cloth is run out of the kier, through a tight strand washer and squeezer, up over reels and down into a chemic (sodium hypochlorite) solution in a saturating pit. The strength of the chemic varies with the cloth being bleached and runs from 1½° Twaddle to 2½° Twaddle strength.

Chemic solution of this strength is obtained by diluting the original make-up formula with cold water in two dilution steps.

The original concentrated chemic mix is as follows:

300 lb. Liquid Chlorine	1300 gal. mix made up cold
285 lb. Caustic Soda	Finished mix is 10°
246 lb. Soda Ash	Twaddle

The cloth then passes through a squeezer, to remove excess chemic liquor, and up over reels into a J-box or series of J-boxes of sufficient capacity to allow a lay time of over one hour. These J-boxes should be constructed in such a way that there is free access of air to the cloth, therein. A wooden slat arrangement can be used, but stainless steel J-boxes with the sight glasses removed are better and cleaner.

If J-boxes are not available, the cloth can be piled in bins for a lay time of several hours. During the lay time in the bin the cloth should be kept moist on top with a fine water spray mist. After the chemic lay period, the cloth passes through two tight strand washers set up in series, through a squeezer and reels, and down into a "sour" pit.

The "Sour" Pit. This sour pit, known as "white sours," contains a solution of sulphuric acid having a strength of 1½° Twaddle to 1¾° Twaddle. For better removal of mineral compounds from the cloth, many plants use a combination sulphuric-muriatic white sours. From the sour pit the cloth passes through a squeezer, over reels, and is piled into a J-box having a capacity sufficient to allow a lay time of at least 20 minutes. The cloth then passes through two tight strand washers, in series, through a squeezer, over reels, and is piled into the white bins.

At this point the bleaching of the cloth is complete and it is ready for scutching (opening from the rope form to full width) and the water mangle and subsequent finishing operations.

The description of the caustic kier boil-chlorine bleach method of bleaching, just given, does not go into any special variations of the regular process as practiced by some plants.

Peroxide Kier Boil

The bleaching of cotton piece goods in the open kier by the peroxide kier boil method is not as common as caustic kier boiling, but it resembles caustic kier boiling in some respects. The desized cloth is piled in the kier in the same way and the excess water is drained from the kier in the same way.

On heavy goods and those having a tight weave, it is usually necessary to first give the goods a caustic kier boil and then, after washing the goods down in the kier, follow with the peroxide boil in the same kier. On some of the lighter weight goods, a short preliminary open kier scour with detergent and milder alkalies will suffice.

In either case, the goods are given the peroxide boil in the same kier after being washed down following the preliminary treatment.

In bleaching by this method the peroxide kier charge liquor is flowed into the kier from the bot-

(*Continued on page* 183)

STITCH CAM GAUGE used by the author. Ruler below serves to indicate size of device. See sketch at lower right for details of construction.

Stitch Cam Gauge

for Komet Machines

By ERNEST BRIDGES

EXCLUSIVE

Simple gauge is designed to permit quick check and adjustments on stitch cams to control uneven knitting.

UNEVEN knitting in the heel and toe fabric usually develops at some time on circular hosiery machines. On machines which have developed this trouble the goods produced have a shoddy appearance. This trouble is not difficult to overcome; however the major problem is to correct the trouble promptly. Too many fixers have that "it's not too bad, let it go" attitude.

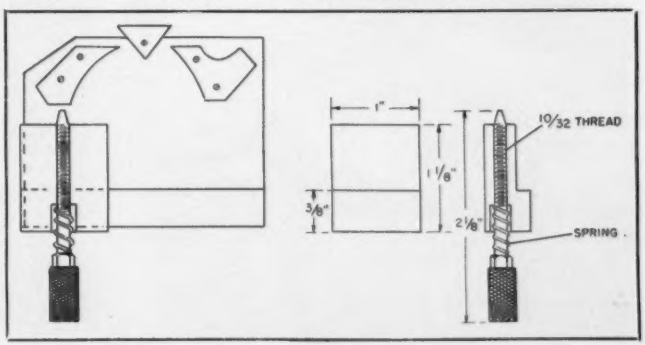
Some modern machines are equipped with adjustable stitch cams, and others are stationary. On the former, uneven knitting can be overcome by raising or lowering one stitch cam, thereby regaining the correct balance. On the latter it may be necessary to renew one or both stitch cams, depending upon how badly they are worn.

Komet and Links and Links machines are equipped with stationary stitch cams; therefore we must depend upon measurements to check the lengths of respective stitch cams. There are a number of satisfactory methods which can be used to check stitch cam lengths on Komets. The stitch cam gauge, shown in the accompanying illustrations, was especially developed to simplify this job.

To check stitch cam lengths, remove the stitch cam section; remove the guard cam immediately under the stitch cams; place the gauge under one stitch cam; and turn the thumb screw until it touches the bottom of the cam. Check the other cam in the same manner. In this way it is easy to see exactly how much variation in length there is between the two cams.

In some instances it will be found that both cams are the same length. If so, check for clearance between stitch cams and guard cam. If guard cams are polished frequently, the wear may cause excessive clearance. In such instances the guard cam should be renewed. There should be enough space between the bottom of the stitch cams and the top of the guard cam to permit slider butts to pass without binding.

CAM GAUGE in position (left) to check cam height. Right, details of construction are presented to enable others to make such a gauge.



Gauges Make the Difference

Good gauges and special jigs make the difference between a "just passable" and an expert job of loom fixing.

Staff Prepared

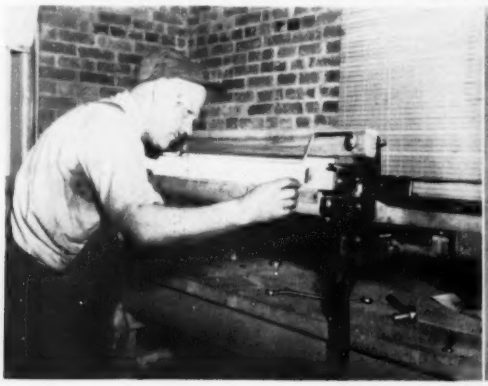
EXCLUSIVE

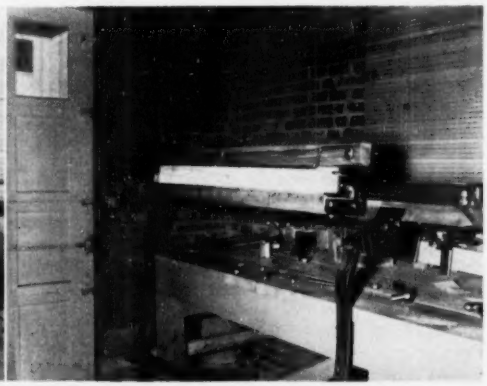
NO MATTER how skilled a loom fixer may be, he can never do his best work without the proper tools and gauges. At least, that is the way B. M. Cooper feels about it. He has been associated with Emil V. Wilson for ten years, fixing looms in mills all over the country. Now the firm has its own plant in Greenville, S. C., where mills ship looms for complete overhaul jobs. In this plant, loom fixing has been removed as far as possible from the field of art and craft and has been brought as closely as possible to applied science.

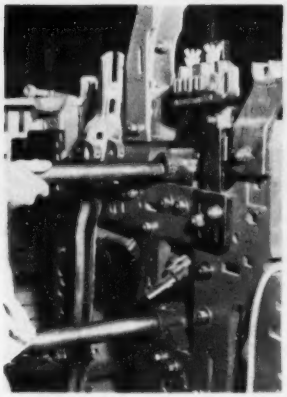
When a loom comes into the Wilson plant, it is taken apart to the last nut and bolt, cleaned and reassembled, new parts being substituted for any that are worn. In reassembling, the difference is in the gauging. A number of new gauges have been designed and built to make sure that every assembled part is fitted into its proper position with relation to the others before it is finally locked in place.

The illustrations show the gauging done in assembling and adjusting the lay and then in assembling the loom as a whole.

SWORDS, mounted to the rocker shaft, rest in a jig built onto a work bench. In this position, assembly is quick and accurate. First, the lay is squared to the swords, and the lay end plates are aligned with the shuttle race. Next, the reed is squared and the back plates squared and aligned as shown at left. Then the protector rods are assembled. Finally, the check straps, binders, front box plates, and picker stick guides are fastened in place.

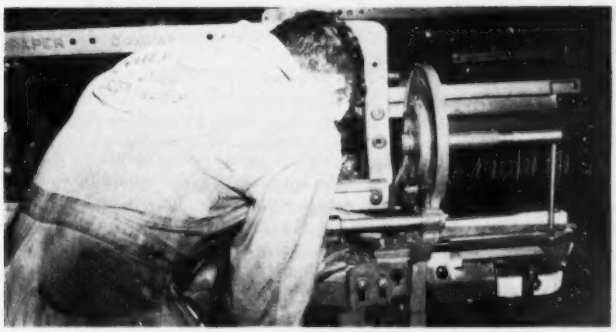






FEW loom fixers give enough attention to alignment of cam and crankshaft bearings. These should be so lined up that the shafts turn freely and without any sign of tightness at any angle. Mounting plates of bearings must be filed off until such a fit is obtained.

GROUP of looms in the process of being overhauled at Emil V. Wilson Co.



CONVENTIONAL gauges are used to set hopper stand at proper height from the lay and at proper distance from the lay end. Hopper stand is also aligned with reed.

SETTING the lay to the proper height is a little more complicated. This requires not only a gauge, but a jig to properly set it. Note the bored jig attached to the bottom of the loom frame. The gauge is then set in this jig and fitted at the top against horizontal guides which show height of lay.

CORRECT center distance between cam and crankshaft bearings is important. These meshing gears are designed to operate at an exact distance between centers, and when slightly off, they will run, but wear will be rapid. The special gauge shown assures proper setting of center distance.

CORRECT distance between the horn on the loomside and the center of the crankshaft bearing is also important. This setting is accomplished with another special gauge as shown. Without proper alignment at this point, the lay will not be correctly set in the loom.

*Article 3**

EXCLUSIVE

By RAMON PARKS

Cooperation

with other overseers and management

ALTHOUGH each department in the mill is an independent unit, with its own particular functions, its own staff of supervisors and employees, it is, nevertheless, only *one* of *several* units required to process the product being manufactured. Its functioning is dependent upon the correct functioning of the preceding departments and the departments following it.

The overseer of a department, though primarily responsible for his own particular unit, cannot be a "lone wolf," but must work with—cooperate with—his fellow overseers and with management, if his department is to function properly and if the stock in process is to move through the plant smoothly and in the correct order to meet deliveries.

Cooperating With the Preceding Department. There are a number of ways in which a foreman may work with the overseer of the department which precedes his own, some of which are discussed in the following paragraphs:

Proper Requisitioning of Materials. Whether yarn or warps are ordered in definite amounts (or as might be in the case of single yarns or roving, a certain number of frames are ordered run on certain numbers) the overseer receiving the stock has a responsibility in taking all necessary precautions that the orders are made out correctly. He should be sure that any special data, such as twist, length, etc., are clearly specified. He should be sure that any unexpected changes which might alter the original order are passed along as quickly as possible to prevent run-overs, or making up of incorrect or excessive yarns or warps which would tie up bobbins, boxes, or beams.

Proper Care and Return of Empty Bobbins, Boxes, and Beams. Containers or transportation units of any kind belonging to another department should be given the same care by the overseer as he would give his own. They should be emptied and returned as soon as possible. Any defective, broken, or badly worn units (such as boxes, beams, hoists, and trucks) should be marked before returning and should be returned empty. In some cases overseers have a mutual agreement whereby such items may be sent directly to the repair shop by the department which discovers the defect. The repair shop would charge the work to the department to which the defective unit belongs.

Reporting Defective or Substandard Work. Defective material received from the preceding department should be returned at frequent intervals, especially items which indicate that something is wrong, which, if not corrected, would result in more bad work. Routine bad work, such as an occasional broken bobbin, resulting in tangled yarn, an infrequent singling or doubling, could be returned once a day. A doff of

*The first two articles of this series appeared in the June and July issues, respectively. Article 1 had as its sub-title "Hiring and Training"; Article 2, "Employee Relations."
Reprints of individual articles will not be available. However, if the demand for the entire series is large enough, it will be placed in booklet form. Write the editors if you are interested.

tangled yarn or a lot of cut roving showing up on a spinning frame would indicate that something was wrong with the machine producing the yarn or the roving and that more of it might be made unless corrected. This calls for immediate action by promptly contacting the overseer affected, so that the necessary corrective measures can be taken.

Watching for Errors. Sometimes through oversight or even through carelessness a department will mark yarns or beams incorrectly, or in some other manner process the material in the wrong way. The overseer should train his employees who receive or use the material to look for such errors and report any which he may suspect. (Some mills go so far as to offer a premium to the employee finding incorrectly marked or processed material.) The overseer of the department making the error should be contacted as quickly as possible so that disciplinary action may be taken if necessary.

Cooperating with the Subsequent Department. The overseer has certain responsibilities to the subsequent department, which might be summed up somewhat as follows:

Watching His Quality. In order that the subsequent department can operate at top efficiency it is necessary that the stock it receives be of first quality. The overseer should take every precaution to see that his machines are kept in good repair and operating condition and that they are properly set (if settings are required) in order to produce the best possible material. Operators should be trained to look for defective material being made by their machines and to have the necessary corrections made without waiting for someone in the next department to find and report it.

The supervisor and his assistants should spend considerable time out in the room looking for machines making substandard work, and they should report to the overseer of the department receiving their material when they suspect that defective work may have already reached him. This may prevent further processing of goods that would be unacceptable to the customer.

Material Properly Marked. The overseer should take every precaution that material leaving his department has been correctly and completely marked. Not only should the material itself be properly identified, but some kind of marking should indicate if possible the machine on which it was processed and the operative responsible for its production. Not only will this make it possible to trace work back to its original source, but the operative will just naturally be a little more careful to turn out better work than he would if his production is to be mixed with that made by other employees and thus lose its identity.

The overseer should be careful not to overdo the practice of special markings. For example, if a red tag is to mean a sample, do not use a red tag for anything else. If special marking is required for something different, then use another color. Try to let a color mean the same thing each time it is used, if possible.

Look at Bad Work Promptly. No overseer likes to see bad work from his department; but if bad work is made (and this will happen even in the best run departments) the overseer should welcome the opportunity of looking at it. If the defective work is unavoidable, he will at least know about it. If it is subject to correction, he can take the necessary steps to prevent a repetition of the defects.

The attitude that an overseer takes when he is called to look at bad work often determines whether he will have the opportunity of seeing it first the next time it occurs, or whether the superintendent will be called first and have him call for the overseer. We have known overseers to blow their top on being called to see some bad work from their department, when half the energy they spent fuming and fussing, properly directed, would have made the error less likely to happen again.

Keep Containers in Good Repair. Boxes, cans, trucks, and beams should not be used if not clean and in good order. Watch for, and do not use, boxes with splinters or protruding nails, beams with cracked heads, or any other such items which are not completely safe. Do not allow yarn or roving boxes to be used for dirty waste or for machine parts. Much unnecessary waste and bad work have resulted from the failure to observe this precaution.

Cooperation With Service Departments. Service departments, such as the repair shop, the laboratory, the personnel department, and the standards department, exist for the sole purpose of either directly or indirectly benefiting the supervisors of the production departments. Many overseers think of most of these, except the repair shop, as being set up to harass them and to give somebody a job. Management does not usually spend money for such purposes.

Sometimes major breakdowns cannot be foreseen or avoided, but if the condition of a machine indicates that a serious breakdown may come at any time, then the shop should be notified so that it can arrange to handle the repairs conveniently and efficiently. Sometimes hours of down time can be saved by adequate preparation before the machine is stopped for repairs. This may include the assembling of tools and other equipment, machining of certain parts, and the freeing of machinists who might otherwise be working on more important jobs.

Make full use of the facilities offered by the other service departments. This may include speed checking, time study, checking of machines making substandard work, package weight tests, training services, etc.

Cooperation with Management. Cooperation be-

Television Comes to Industry

For some time black and white television systems have been used in industry for such purposes as monitoring hazardous operations and time and motion simplification of record keeping.

Now available is a new scientific communications tool, color television, which makes possible the viewing of industrial operations, etc., in full color. Known as the Vericolor Television System, it was developed by Columbia Broadcasting System and is being manufactured and sold by Remington Rand. Room-to-room, building-to-building, and city-to-city transmission are now possible, it is claimed.

A booklet describing the system is available upon request to Management Controls Division, Remington Rand Inc., 315 Fourth Ave., New York 10, N. Y.

tween management and the overseer must be mutual. In our discussion, however, we are considering the question from the angle of the foreman, and we are assuming that except for an occasional but unintentional oversight, management will do its part.

The overseer should pay close attention to all orders, instructions or suggestions (whether oral or written) received from his superiors. If possible, get all important instructions in writing, but if orders are given orally be sure they are understood; ask questions if necessary to clear up any points. Do not hesitate to have any confusing points cleared up even in the case of written orders.

Some superintendents give orders in the form of suggestions, so when in conversation with the superintendent the overseer should weigh carefully any suggestions which the superintendent makes. He may be giving the instructions in this form to avoid a direct order, or to permit the overseer to use his initiative in devising ways and means of accomplishing the results wanted.

The supervisor should keep his records in such shape that requests for information can be answered with a minimum of delay. Dates are important, and no report should be made or record filed which is not properly dated. List all pertinent information about a subject before filing and while the data are available. Be sure that at least one or two people on your staff are familiar enough with your files to find any item at a moment's notice.

Keeping Management Informed. We often speak of information coming from top management, through the overseer, the secondhand or shift foreman, to the employees. It is just as important that information be channeled in the opposite direction—that is, from the operatives, through the secondhand, the overseer, to top management. The overseer is the key man in both these channels since he is the man in direct contact with top management, and he is not far removed from the employees. The overseer should be "easy" to talk to, so that neither the secondhands nor the operatives will dread to approach him on any matter for fear that he will belittle them, criticize, or appear indifferent or disinterested.

All information will not be definite or direct, but it may be in the nature of a report on the reaction of the employees to certain conditions—for example, changes in product or processes, proposed work load changes, new machinery or other equipment, etc. The overseer should encourage the secondhands to keep him posted on any rumors that may be floating around, any sign of discontent of even the most trivial nature, or on the other hand any complimentary words expressed by any of the operatives. This information is very valuable to top management in formulating matters of policy, proposing working agreements, seeking new markets, etc. Many labor disputes might have been avoided had management been in possession of the right kind of information at the right time.

The information furnished to top management by the overseer should be factual and unbiased. The overseer is usually privileged to voice his opinions, but these opinions should be stated as such, and not be made as coming from the employees.

An overseer may settle many complaints in his own office, some of which might be potential grievances. It is well to report these complaints with any action taken, to the superintendent. This will not only keep him informed as to what is going on, but may furnish him suggestions to pass on to other foremen who may be faced with similar complaints.

If the overseer is confronted with a rather difficult situation, he might be able to postpone a definite decision until he can advise with the superintendent, for sometimes in making a hasty or unwise settlement of a complaint he establishes a precedent which might prove embarrassing to top management in the case of a plant-wide complaint of a similar nature.

The supervisor can cooperate with management by keeping payroll errors at the lowest possible minimum. Have a definite and adequate method of keeping up with the operatives' hours, rates, piece work, etc. See that payroll information is checked carefully before it is turned in to the office. An employee will not come by and brag on the overseer if his pay check is correct. He just takes for granted that it will be correct. But, just let it be a few cents short! He may overlook a five-dollar mistake as being obviously an error, but in the case of a few pennies, he is likely to think that the overseer or the office is trying to gyp him, and he just does not like it.

An overseer can cooperate with management without being a yes-man. In fact, there are times when it is to the best interest of all concerned for him to disagree. But once the boss says that he wants a thing done a certain way, the overseer should do his level best to make it work. Whether it works or not, he will have the satisfaction of knowing that he tried.

(To be continued)

IN TRAINING spinners, it is difficult to be sure that all of the operations have been mastered and the essential information acquired before the trainee is placed entirely upon her own.

It is not at all uncommon to find that a girl who has been spinning for six months cannot piece up, or to discover that she does not know that a broken band should be removed from around the cylinder.

The manual, shown on the accompanying pages, was worked out as an aid in solving this problem. It was written from experience by the simple process of making notes of the deficiencies which showed up in the work of a large number of trainees over a considerable period of time.

Some of the points mentioned may seem to be too trivial to include. Nevertheless each one of them has been a source of trouble to some learner at some time, and most of them occur again and again.

It is not probable that the manual in the exact form offered here will meet the needs of all spinning rooms, or that it is complete. Any spinning room supervisor will find some points that he will not wish to include, others that he will want to change, and still others that he will feel should be added.

In practice, the material shown here is made into a small handbook with space on the front cover for the new employee's name and badge number. She is asked to study it, to check off each item as it is mastered, and to sign and return the booklet when it is completed.

When used correctly, it can be a most helpful training aid.—The Author.

HANDBOOK *for* SPINNERS

BY W. S. FERGUSON

THIS HANDBOOK was prepared to help you learn to spin easily and quickly. The information which the experienced spinners have had to acquire a little at a time on the job is listed here point by point for your benefit.

Check off with your pencil the operations listed on page 1 and page 2 as you learn to perform them and the information on the following pages as soon as you understand it. Do not be afraid to ask questions of your supervisors or fellow employees. They will be glad to help you.

Do not be satisfied until you have checked off every point. You will run a full job and draw full pay much more quickly by doing so.

Working Rules

1. Do not visit away from your job, nor encourage others to visit you.
2. Do not leave your department without the permission of the instructor or the second hand.
3. You are allowed time to go to the lunch stand. Be sure to have your work in good condition before going to lunch. If you stay too long, your work will be in bad shape when you return.
4. Be on your job when the shift ends. Either wash ahead of time, and get back to your job, or wait until the shift ends. Be sure to leave your sides in good shape for the spinner on the next shift.

Operations to be Learned

The following operations are to be learned. By checking this list, you can measure your progress.

1. Cleaning: a. Cleaning creels. b. Cleaning backs. c. Brushing rails. d. Running out guides. e. Picking top rolls. f. Picking steel rolls. g. Picking stands. h. Picking revolving clearers.
2. Start and stop frame.
3. Putting up ends: a. Taking bobbin off. b. Pushing bobbin up (on filling only).
4. Cleaning lap stick.
5. Taking out and replacing top rolls.
6. Setting in roving: a. Single row. b. Double row.
7. Piecing up filling bobbin.
8. Piecing up warp bobbin.
9. Replacing traveler.

Parts of the Spinning Frame

You should be able to point out and name the following parts of the frame and the materials used:

Filling bobbin	Spindle	Revolving clearer
Warp bobbin	Ring	Scavenger roll or lap stick
Roving	Traveler	Saddle
Skewer or roving stick	Trumpet	Stirrup
Guide	Top rolls	Weight lever
Separator	Steel rolls	

Cleaning

1. Be sure to clean all lap sticks immediately after each doff.
2. Watch for loose pieces of cotton or waste on your frames because they may blow into the yarn and cause bad work.
3. Ask the section man for waste with which to clean.
4. Always lift the roving sticks and unwind the roving a little when cleaning the porcelain cups, or the roving may break.
5. When cleaning, watch for ends down and roving about to run out.
6. Do not fan off your frames. The loose

waste settles into the yarn, causing ends to come down and bad places to develop in the yarn.

7. Dispose of your waste as follows:

a. Place white waste in white bags as follows:

(1) Laps from lap sticks
(2) Chokes from steel rolls
(3) Chokes from top rolls
(4) Pieces of roving

b. Place yellow waste in yellow bags as follows:

(1) Pickings from revolving clearers
(2) Lint removed from lap sticks after each doff

c. All other waste is to be dropped on the floor for the sweeper.

d. Be very careful not to put thread waste into the bags.

8. Study the cleaning schedule until you are sure that you understand it.

Starting and Stopping the Spinning Frame

1. If the doffer is not there to stop the frame when the bobbins are full, then the spinner should stop it.

2. Do not stop the frame when the rail is at the top. This will cause the ends to break down when the frame is started.

3. If the frame is making bad work, the spinner should stop it and notify the section man.

4. If the frame is driven by an overhead pulley, when you stop it be sure the belt is off the tight pulley.

5. The spinner should not stop her frames because she is getting behind with her work. If she is in serious trouble, she should notify the section man.

Putting Up Ends

1. Before putting up an end, be sure that the cotton is not lapping up on the top roll or the steel roll, but is lapping on the lap stick.

2. When grasping the bobbin:

a. Grasp it tightly to avoid burning the hand.

b. Catch the bobbin, particularly a warp bobbin, near the bottom or middle to avoid causing the yarn to slough off. If the rail is near the top, push the bobbin up from below with one hand, and take it off with the other.

c. Do not let the traveler strike your hand.

d. Avoid striking your hand upon the separator.

3. When the filling bobbin is as much as one-third full, it is usually easier to put up the end by pushing the bobbin up rather than by taking it off.

4. In finding the end of the yarn:

a. Rub with the finger tips to make the end show. On a warp bobbin, rub from end toward the center to avoid causing the yarn to slough off.

b. On a warp bobbin, be very careful not to break the yarn, causing more than one end to show.

c. With the warp bobbin, if the yarn does slough at the end, or if more than one end is broken out, place the bobbin on the end of the frame, and piece up a new one (see General Information, No. 6).

5. When putting up an end:

a. Do not allow the yarn to dangle from your hand. Gather the surplus into your hand so it will not tangle with the end running next to it.

b. The hand grasping the end of the yarn should be held directly above the bobbin to keep the yarn from breaking when the bobbin is released.

c. Do not hold the end of the yarn too long after the bobbin is released. Too much twist may be inserted, thereby breaking yarn. If this does happen, pull off the yarn with the extra twist before trying again.

d. Break the end off short to avoid a big slub in the yarn.

6. Remove chokes from spindles. They cause the end to come down. They also cause "high bobbins" which are not properly wound.

7. Keep the guide wires free from yarn and cotton.

8. Always clean the lap stick immediately after putting up an end.

9. Do not put up ends with oily hands.

10. When there is a very large lap on the lap stick, it may be better to clean the lapstick before attempting to put up the end.

11. When the roving continues to cling to the top roll, refusing to lap on the lap stick, pinch the roving off the roll with one hand, immediately putting the end up with the other hand.

12. When pinching cotton off of the top roll, do not press down too hard, or the end will come down at the other end of the roll.

13. Place any clogged bobbin or tangled warp bobbin on the end of the frame, and piece up a new one. (See General Information, No. 5 and No. 6).

Unchoking Steel Rolls

1. When there is a small amount of cotton on front steel roll, remove it by hand.

2. When there is a large lap on the front steel roll, use the lap hook. (Careful! It can hurt you.)

3. When roving is wound onto the back steel rolls, flag for the fixer.

Unchoking Top Rolls

1. Do not clean top rolls when hands are oily.

2. Do not use lap hook on top rolls. It may ruin them.

3. When the top roll is too badly choked to pinch off readily, loosen the weight, remove, clean and replace the roll, and refasten the weight.

4. When replacing the roll, be sure that:
a. The saddle is placed properly.
b. The weight rests in the correct notch of the weight lever.
5. If the roll is damaged, break back the roving and flag for the fixer.
6. When a number of ends are down, and bad chokes are developing, break back the roving, take out and clean the rolls, and put up the ends on each roll as it is cleaned. Do not remain there too long at one time—trouble may develop elsewhere. In this instance, go over your job, then return and finish removing the chokes from the rolls.
7. When you do not have time to clean the choke from the roll, unweight and remove the roll so you can get to it. This will avoid one end of the roll wearing more than the other.
8. When yarn unwinds from the bobbin onto the top roll, which sometimes happens when a band breaks, remove the roll, and flag for the fixer.

Setting In Roving

1. Be careful not to mix the roving from different frames unless it is alike, in which case the marks on the upper ends will be the same color.
2. The roving should not be removed from the creel until the last lay is unwinding.
3. Loose pieces of cotton or waste should be removed from the roving bobbin before it is set in.
4. The end of the roving should be broken off before it is inserted into the trumpet. The piece broken off should be put with the white waste, not on the floor.
5. In twisting the end of the new roving with that of the old, have as short an overlap as possible to avoid a long doubling in the yarn. For each inch of overlap in the roving there will be many inches of doubling in the yarn.
6. If the end of the roving fails to go through the trumpet, there is probably cotton in the lower end of the trumpet. Pull this out from the rear of the trumpet rather than by trying to pull it on through, which only jams it in tighter.
7. In pushing the roving through the trumpet, be careful to see that it goes through the rolls instead of wrapping around the back steel roll. Check closely on this, or you will have to put up more flags for the fixer than necessary.
8. Place the empty roving bobbins on the unpainted part of the frame top.
9. Learn what a singling and a doubling is. The singling or doubling, if short, should be wound off of the roving bobbin. If of any great length, remove it, and place it with the bad roving.
10. If an end continues to break down, the roving may be bad. Get an experienced spinner to inspect it for you. Bad roving of any kind should be placed on the end of the frame top painted red to go back to the card room.
11. Small pieces of bobbins of roving from the card room are placed on the end of the frame top painted green. These are divided equally among the spinners so that each may run her share.
12. When breaking back the roving, give the roving bobbin a slight whirl to wind the roving end, thus preventing it from hanging down and winding onto another bobbin or making a doubling.
13. When a length of roving from one bobbin does become accidentally wound onto another bobbin, unwind it without breaking back the end if possible. If there is too much for this to be done easily, break back the roving that is running from the second bobbin, and run the improperly wound roving from it until it has unwound. Then it may be replaced properly.
14. Try to replace your roving before it runs out. Remember, if it runs out, new roving must be set in, and the end must be put up. If the frame is doffed in the meantime, then the bobbin must be pieced up.

Changing Travelers

1. Usually, travelers are changed at regular intervals by traveler changers.
2. When a spinner finds a traveler off, she should replace it.
3. If a traveler repeatedly cuts the yarn when an end is being put up, it probably needs replacing.
4. Extra travelers are placed in cups attached to the creel boards. Be sure to get travelers only from the cup on the frame on which they are to be used.

The Section Man

1. The section man is held responsible for the work done on his job by the spinners and doffers. Please co-operate with him in every way in making the job run better. He can be most helpful to the spinners and doffers—especially to those who are learning.
2. To flag for the section man, break back the roving, take the bobbin off the spindle, and stand it on the frame behind the rolls.
3. Flag for the section man:
a. When an end will not run. A small or misshaped bobbin usually indicates that an end is breaking down too many times, and it should be flagged.
b. When a top roll is bad.
c. When the roving becomes wound on the steel rolls. It must be cut off. This should be done by the section man.
d. When the roving stick is broken.

e. When an end is making bad work, or when any part is broken or missing.

4. Notify your section man:

a. At any time when trouble occurs which you cannot handle.

b. When you see any condition which appears to be unsafe.

c. If you see or smell anything burning.

General Information

1. Pick up any loose bobbins on the floor.

2. Do not break back ends if it can be avoided. This results in extra work for you later. If you have to break them back, put them up again just as soon as possible, and by all means before the end of the shift. The spinner on the next shift will resent having to put them up. It is quite possible for the break backs of all the spinners to nullify the work of one spinner.

3. When you see a high bobbin, place it on the end of the frame top and piece up a new one in its place (see No. 5 and No. 6).

4. When a band is broken or loose, break back the roving until it is replaced. If the band is still around the cylinder, remove it, or get the section man to do so if you cannot. This is most important as the cylinder may be badly damaged, causing a breakdown, if the band is left around it.

5. A filling bobbin may be pieced up at any time until the frame is about one-third full. After that, wait until it is doffed before piecing up.

6. A warp bobbin may be pieced up at any time until the frame is about three-fourths full. After that, wait until the frame is doffed before piecing up.

7. Keep the revolving clearers on. Your work will not run as well without them.

8. Feel free to ask questions about anything you do not understand. By doing so you will learn much more quickly.

Notes

Use this space to write down any questions or any information that you wish to remember.

Below is a place where you can keep a record of your progress. Keep it up to date at all times in order that you may know how you are getting along.

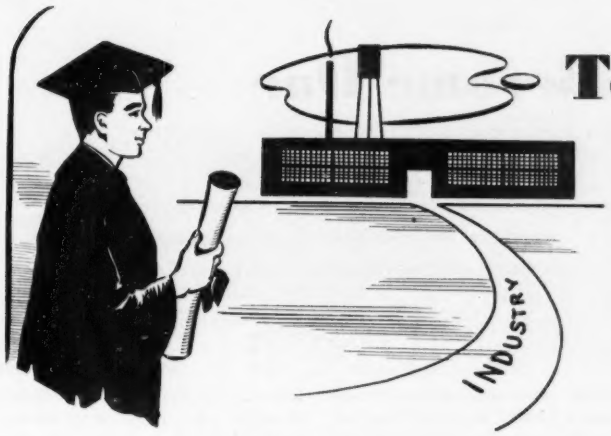
No. Weeks	Date Week Ended	Hours Worked	No. Sides Run	No. Sides On Job	Amt. of Pay
1.	.....	.....	.....	.....	.....
2.	.....	.....	.....	.....	.....
3.	.....	.....	.....	.....	.....
	/ /	/ /	/ /	/ /	/ /
22.	.....	.....	.....	.....	.....
23.	.....	.....	.....	.....	.....
24.	.....	.....	.....	.....	.....

Ten Years of Cotton Textiles

(Data assembled by The Association of Cotton Textile Merchants of New York)

*Includes cotton system spindles on other fibers. N. A.—Not available.

	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
EQUIPMENT											
COTTON SYSTEM SPINDLES											
Spindles in place at beginning of year	24,504,490	24,137,306	23,757,844	23,342,922	23,105,942	23,787,000*	23,928,000*	23,727,000*	23,751,000*	23,341,000*	23,149,000*
Increase or decrease from preceding year	−435,714	−347,184	−399,463	−414,922	−156,980	681,058	141,000	−201,000	24,000	−410,000	−192,000
New installations, additions and replacements	449,848	210,456	7,752	82,736	323,688	323,056	416,555	607,358	858,623	649,780	
OPERATION											
CONSUMING COTTON ONLY											
Spindles active at any time during year ending July 31st	23,389,454	23,607,508	23,429,232	23,018,828	22,674,852	N.A.	N.A.	N.A.	N.A.	N.A.	
Average number of active spindles based on twelve monthly reports	22,955,205	23,051,400	22,744,106	23,332,080	22,018,529	N.A.	N.A.	N.A.	N.A.	N.A.	
Average number of spindles active on last working day of month	N.A.	N.A.	N.A.	N.A.	N.A.	21,475,000	21,588,000	21,391,000	20,063,000	20,449,000	
CONSUMING FIBERS OTHER THAN COTTON, OR BLENDS											
Average number of spindles active on last working day of month	N.A.	N.A.	N.A.	N.A.	N.A.	1,172,000	1,198,000	1,337,000	1,174,000	1,295,000	
ALL COTTON SYSTEM OPERATION											
Spindles idle during year ending July 31st	1,115,036	549,798	328,592	324,094	431,090	N.A.	N.A.	N.A.	N.A.	N.A.	
Average number of spindles idle on last working day of month	N.A.	N.A.	N.A.	N.A.	N.A.	1,212,000	1,066,000	1,050,000	2,334,000	1,372,000	
Spindle hours run:											
On 100% cotton	121,968,582,000	133,336,052,000	125,413,065,000	114,984,489,000	107,354,187,000	109,474,292,000	116,040,000,000	113,846,000,000	97,874,000,000	117,979,000,000	
On other fibers, blends	N.A.	N.A.	N.A.	N.A.	N.A.	5,875,000,000	6,346,000,000	7,432,000,000	5,816,000,000	7,458,000,000	
Hours run per average active spindle	5,313	5,793	5,514	5,149	4,876	5,094	5,371	5,424	4,882	5,769	
MARKET											
COTTON TEXTILES											
Production in square yards	11,327,903,000	12,204,611,000	11,569,224,000	10,572,421,000	9,779,238,000	10,171,225,000	11,083,383,000	10,863,129,000	9,391,578,000	11,169,276,000	
Exports in square yards	586,719,000	447,850,000	538,502,000	628,675,000	673,601,000	774,945,000	1,480,025,000	918,796,000	875,393,000	559,297,000	
Imports in square yards	61,211,000	17,664,000	19,695,000	11,216,000	80,029,000	43,758,000	15,962,000	31,749,000	19,745,000	47,588,000	
Available for domestic consumption	10,802,375,000	11,774,425,000	11,050,417,000	9,954,962,000	9,185,666,000	9,440,038,000	9,619,320,000	9,956,082,000	8,535,928,000	10,657,567,000	
Population at July 1st	133,377,000	134,831,000	136,719,000	138,390,000	139,934,000	141,398,000	144,129,000	146,621,000	149,149,000	151,689,000	
Available for per capita consumption in square yards	80.99	87.32	80.82	71.93	65.64	66.76	66.74	67.90	57.23	70.26	



Textile School Graduates Enter Industry

THE TEXTILE SCHOOLS are cooperating with us by providing the names and employers (where known) of their recent graduates. Last month we published the information received from Texas Technological College and St. Hyacinthe (Que.) Textile School. Here we present graduates of Alabama Polytechnic Institute, Georgia Institute of Technology, Institute of Textile Technology, Lowell Textile Institute, New Bedford Textile Institute, and The Provincial Institute of Textiles (Canada). We extend our congratulations to these men and women who have chosen the textile and associated industries for their life's work. We wish them all much success and happiness.—The Editors.

Alabama Polytechnic Institute

Winter of 1950-51

Charles H. Foster: employed by Vanity Fair Mills, Monroeville, Ala.

Joel S. Graham: employed by Deering, Milliken Co., Abbeville, S. C.

George N. Murray: employed by Lowell Bleachery South, Griffin, Ga.

Spring of 1951

Charles A. Bates: not known.

Rama M. Ellis: employed by The DuPont Co., Chattanooga, Tenn.

Frederick Moore: employed by Florence Cotton Mills, Florence, Ala.

Thomas H. McDaniels: employed by Hartsville (S. C.) Cotton Mills.

Georgia Institute of Technology

March 1951

Louis J. Allison, B.S. in Textiles (textile manufacturing option); employed by Tennessee-Eastman Corp., Kingsport, Tenn.

Ralph W. Barnard, B.S. in Textiles (textile manufacturing option).

Irving L. Brand, B.S. in Textiles (textile manufacturing option).

William C. Brown, B.S. in Textiles (textile manufacturing option); employed by J. P. Stevens Co., Greenville, S. C.

Albert J. Chaiken, B.S. in Textiles (textile manufacturing option).

James D. Cummings, B.S. in Textiles (textile manufacturing option); employed by American Enka Corp., Enka, N. C.

Barnard I. Garland, B.S. in Textiles (textile manufacturing option); will do graduate work.

John D. Jackson, B.S. in Textiles (textile manufacturing option); employed by Dunean Mills, Greenville, S. C.

Francis W. Koinig, B.S. in Textiles (textile manufacturing option).

Robert B. Schelman, B.S. in Textiles (textile manufacturing option).

Marshall C. Stone, Jr., B.S. in Textiles (textile manufacturing option); employed by Excelsior Mills, Union, S. C.

George A. Wright, B.S. in Textiles (textile manufacturing option).

June 1951

Wallace Arkowitz, B.S. in Textiles (textile manufacturing option); employed by Naval Clothing Depot, Brooklyn, N. Y.

Robert T. Beall, B.S. in Textiles (textile manufacturing option); employed by Lockheed Aircraft Co., Marietta, Ga.

Julius Blum, B.S. in Textiles (textile manufacturing option).

Joseph E. Bresnahan, B.S. in Textiles (chemistry & dyeing option); U. S. Navy.

(Continued on page 193)

Three Mills Become One

Staff Prepared

Overhead conveyor proves solution to only problem in combining three small mills, making each a department of a single plant.

EXCLUSIVE

EXACTLY 175 years ago Adam Smith published his "Wealth of Nations," in which he explained for the first time the economic advantages of a division of labor. He used, as the classic example, the manufacture of pins. He showed that it was possible to make many more pins if one man made the heads, another the points; rather than each making complete pins. A recent application of this old principal, the basis of mass production, has again proved itself, this time in combining three small yarn mills in Gastonia, N. C.

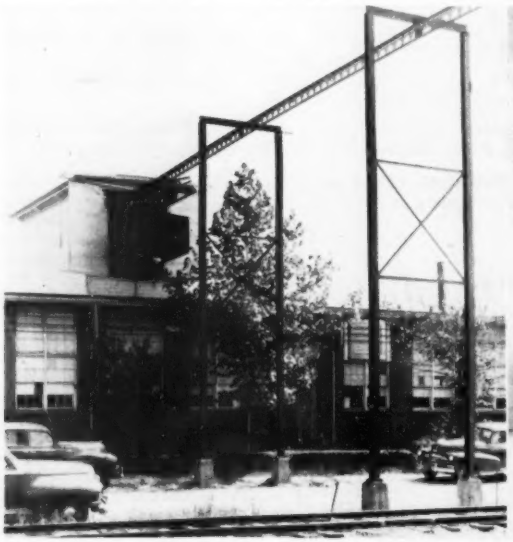
About five years ago, Textiles, Inc., became the owner of the Hanover, Rankin, and Pinkney mills. Hanover had 8,000 spindles, Rankin 6,000, and Pinkney 11,000. All three were manufacturers of fine, combed knitting and mercerized yarns, 24s through 36s. Each of these mills had its own opening, carding, combing, spinning, and twisting rooms. Yet, they were under the same management and were located within 40 yards, one of the other.

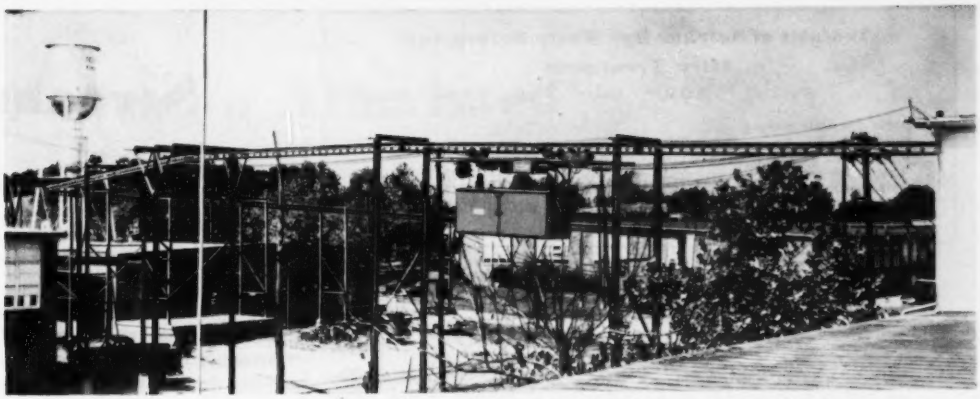
It did not take long to realize that this was an inefficient arrangement with poor division of labor and that it was necessary to do something about it.

In February, 1950, the management started moving machinery so that each plant could operate as a department rather than as an independent mill. It was decided to use the Pinkney plant as the carding department, and all of the opening equipment, pickers, cards, drawing frames, and fly frames from the other plants were moved to Pinkney. All of the opening equipment, three pickers (which were rebuilt by Aldrich), 109 cards, 36 combers, 102 deliveries of drawing and 25 fly frames were placed in one building.

Similarly, all spinning frames were moved to Hanover, giving it a total of 25,000 spindles. Also added was a new B-C spooler. All winding, twisting, and finishing equipment was moved to Rankin. All of this equipment was moved while the mill was in operation, only the machine actually in transit being out. The whole job was

CONVEYOR CAR entering the penthouse of the Rankin plant (left). Right, conveyor car being unloaded.





CONVEYOR system as it appears from the roof of Rankin. Sketch below shows 3-mill hook-up.

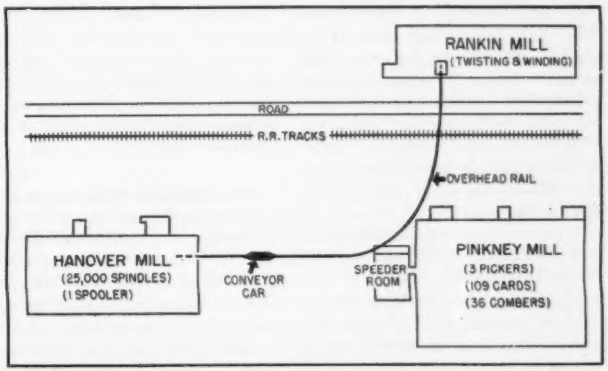
done in about five months and was finished by July

It was recognized in planning the move that there would be one big problem to balance the many advantages of the move. This problem was materials handling. Some fast, simple, and reliable way to get roving from Pinkney to Hanover and bobbins and cheeses of yarn from Hanover to Rankin would have to be found. The distance from Pinkney to Hanover is about 200 ft and the total distance from Hanover to Rankin, via Pinkney, is about 400 ft. Furthermore, this distance has to be traveled over roadways and railroad tracks.

Overhead Conveyor. The transportation problem was solved by installing an automatic, overhead tram rail conveyor, this Cleveland Tramrail equipment being purchased from Engineering Sales, Inc., of Charlotte, N. C.

The handling system consists of 400 feet of a single overhead rail mounted 30 to 40 feet above the ground. This rail leaves the Hanover plant through a pair of doors on an enclosure at the second floor level. The rail extends to an outside platform of the Pinkney speeder room, which is an annex of the main building, and goes on to Rankin where it enters a penthouse on the roof.

An enclosed car runs on the overhead rail, a tractor motor pulling it along at 150 feet per minute. The car is supported by wire ropes swung from an electrically operated hoist.



PLAN VIEW of the plant locations and outside, overhead rail conveyor system connecting them. See photo above.

In making a full run, the car is loaded with four boxes of roving at the loading platform at Pinkney. The operator closes the doors on the car and pushes a pushbutton. The hoist automatically raises the car to the track, and the tractor motor moves it to Hanover. As it approaches Hanover, an automatic alarm bell rings, bumpers on the car open the doors in the wall, and the car enters, stops, and is lowered to the floor.

An operator unloads the boxes of roving and reloads the car with boxes of yarn or special cheese trucks. Then the operator pushes a button directing the car to Rankin, and it automatically takes off with its load, stopping in the penthouse at Rankin where it is automatically lowered to the floor. After being unloaded, the car is returned in the same manner to start another cycle.

The materials handling system accommodates about 76,000 pounds of stock in process each week. In fact, that weight is handled twice, once as roving and once as yarn. There is less work involved in the handling procedure than most mills have in getting from one department to another in the same building. Since the car is tightly closed, bad weather does not interfere with operations

The conveyor has overcome the only disadvantage in the plan to combine the three mills into one. It reduced operating costs considerably, and the mills have a far cleaner and roomier layout of machinery. Supervision has become immeasurably easier. Hanover and Rankin no longer exist. It is now simply Pinkney Mill, and the change has been profitable.

Stream

Analysis of Sulphur Dye Waste Before and After Treatment

	B.O.D.**	Color	pH	Total Alkali	Phenol Alkali
Sulphur dye waste entering holding tank	720	8750	11.0	689	273
Chrome-acetic waste leaving heat exchanger	690	400	4.8	92	0
Treated waste entering lagoon	1040	150	6.3	443	0
Treated waste leaving lagoon	900	200	6.3	438	0

**Biological Oxygen Demand.

THE CHEMICAL process of dyeing cotton with sulphur dyestuffs is usually a relatively intermittent operation compared to the steady day-to-day operations of desizing, mercerizing, and bleaching. Yet the small amount of waste effluent coming from the sulphur dyeing operation creates a profound influence on the overall mill waste disposal problem. This deleterious influence lingers in the receiving stream long after the processing step of sulphur dyeing has ceased.

Waste waters from both desizing and bleaching operations are objectionable in a stream chiefly because they consume the natural oxygen present in the receiving water. This can be corrected by standard procedures. Waste from mercerizing operations is strongly alkaline and destroys the natural neutrality of the river. This alkalinity can be corrected by acidification. It is feasible and practical, when the mercerizing waste is in sufficient volume, to evaporate the caustic soda waste and reuse it in the finishing plant.

Dye house wastes, although much smaller in volume, are more of a disturbing factor in terms of pollution, than all other textile wastes combined. There are several reasons which account for this situation.

In the first place, the residual sulphur dye present in the dyeroom effluent imparts an intense color to the receiving stream. The color is primarily a psychological problem, but it requires correction to appease the public. The sodium sulphide present in the spent dye bath is also troublesome. It consumes large amounts of oxygen in the river water. The presence of oxygen in the water is essential for preservation of aquatic life. The most damaging chemical is the chromium and other metallic salts which may be present in the oxidizing bath used for fixing the sulphur dye onto the cloth. Chromium is a toxic chemical and is poisonous to fish when present in the water in very small amounts.

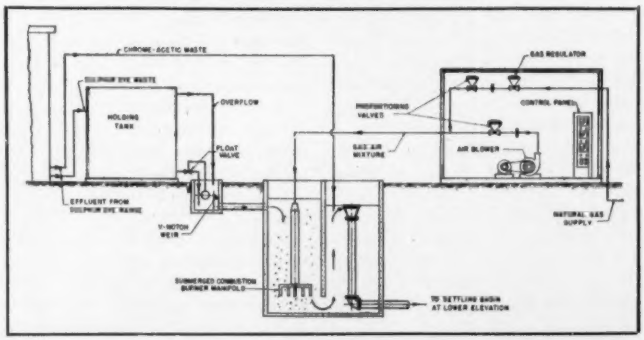
Experience at Pepperell. Several years ago, the foregoing condition existed at the Pepperell Manufacturing Company's finishing plant in Opelika, Alabama. The small stream which received the finishing room waste was then distinctly alkaline for several miles downstream and when the sulphur dyeing operation was performed, the water in the creek was colored strongly with the dyestuff. This condition was further aggravated by the chromium waste from the dyeing operation so that fish and other aquatic life appeared to be destroyed a considerable distance downstream from the textile mill.

Investigation showed that the caustic waste coming from the Scott units on the mercerizing range averaged about 5 per cent concentration and constituted over 80 per cent of the total caustic used in the mercerizing process. It was proposed that multiple effect evaporators be installed to concentrate this waste to 40 per cent caustic soda content and that the evaporated waste be reused in mercerizing when it could not be consumed in the boiling-out operation.

Data collected at various points downstream supported a contention that the balance of the wastes from the mill would not adversely affect the natural condition of the stream, provided the sulphur dyeing effluent was processed to remove completely all of the dyestuff, sodium sulphide, and chromium present in the waste.

The dyeing room waste was estimated at 250,000 gallons per day which was insignificant compared to the 2,250,000 gallons of water used in the finishing plant.

WASTE TREATMENT PLANT LAYOUT at Pepperell's Opelika finishing unit is shown in this sketch.



Pollution Alleviated

at Pepperell by processing sulphur dye waste

By **HAROLD R. MURDOCK**
Chemical Engineer
Robert and Company Associates
Atlanta, Georgia

EXCLUSIVE

Nevertheless, this waste, carrying less than 2000 pounds per day of alkalinity stated as caustic soda, was the most disturbing material entering the creek.

The operation of the sulphur dyeing range at Pepperell was not continuous and it was desirable to design the treating plant for operation simultaneously with the sulphur dyeing range operation. Consequently, the equipment was installed so that the process could be under the supervision and responsibility of the dye house foreman.

Waste Treatment. The accompanying sketch shows the layout. The continuous dye range was installed originally so that the overflow from the padder, dyeing, oxidizing, and washer units overflowed into a trench underneath the machine and then into the common outfall of the plant. The chromate oxidizing bath (temperature 200 F) was passed through a heat exchanger before it entered the common drain with the sulphur dye waste.

In operating the treatment plant, the trench under the dye range is closed off from the main plant effluent outfall, and the waste from the sulphur dye range is permitted to enter a sump in the floor from which it is pumped directly to a holding tank (see sketch). The chrome oxidizing solution is kept separate from the sulphur dye waste. When the oxidizing solution leaves the heat exchanger, it is pumped separately to the treating plant and added to the sulphur dye waste after the latter has been processed by an Ozark submerged combustion burner.

A tank of 12,000 gallons capacity is adequate to blend the chemicals coming from the dyeing operation. It also acts as a retention tank before and after treatment of the waste. Dye waste is discharged from the tank into a flow box.

The flow is controlled by a float valve. The solution passing the V-notch weir, flows to a submerged combustion reaction chamber which is in two sections. In the first section the flow is downward. The waste then passes under the baffle at the bottom of the chamber and up into the second section where it is mixed with the chrome-acetic oxidizing waste from the dyeing range. The treated waste then flows to a lagoon to permit the precipitated dye and chromium to settle.

The Ozark submerged combustion equipment operates on natural gas and is controlled automatically by pH regulation. The carbon dioxide generated by the burner, bubbles up through the waste in the first section of the chamber. The alkalinity is neutralized completely. The small amount of dyestuff, which may have escaped oxidation in the combustion chamber, reacts with the chromic acid waste. The acid waste is added at the upflow section before the waste leaves through the standpipe to the lagoon.

After starting the treatment equipment, it is not necessary to have an operator in attendance. An alarm system signals to the operators in the dye house, indicating when it is necessary to adjust the flow of the waste or the operation of the burner.

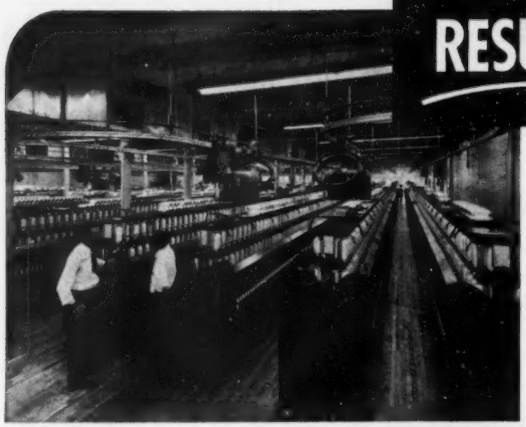
A comparison of the wastes entering the treatment plant and that entering and leaving the lagoon is shown in the table.

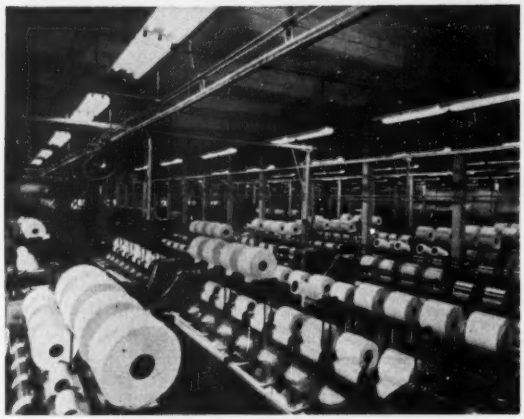
The pH change from strong alkalinity to acidity is shown clearly in the table. The reduction in color is pronounced. The higher B. O. D. (Biological Oxygen Demand) values for the treated waste in the lagoon as compared to the untreated waste appears to be a paradox. This is because the alkalinity, attributed to the sodium sulphide in the raw waste, delays the B.O.D. beyond the five-day period fixed by the standard method for analyzing B. O. D. values. When the waste is acidified, the sodium sulphide (Na_2S) is changed to sodium acid sulphide (NaHS). The sodium acid sulphide is much more active than sodium sulphide and consequently is "quick B.O.D." within the five-day period as compared to the "slow inactive B.O.D." resulting from the alkaline solution of sodium sulphide.

Modifications. In some localities it may be desirable to install settling tanks or clarifiers, to separate the sludge of dyestuff and chromium hydroxide in the treated waste, instead of using settling lagoons. It may be necessary also to aerate the treated solution to remove part of the sulphide in the treated waste as hydrogen sulphide gas and then repeat the recarbonation of the aerated waste by using another submerged combustion unit.

Engineering studies of each locality are necessary.

RESULTS are what count!





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"The best investment we have ever made . . . paid for itself in two years. . ."

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SPINNING CONTROL BOARD is shown here. Charts are about 4 feet wide and 3 feet high, mounted with hinges on a Kardex board and table. Note that board is divided into two parts: the upper part, which is in three sections designated "Product Layout," "Machinery Layout," and "Job Layout," has large ruled cardboard forms covered with vinylite; the bottom portion of the board is made up of scale models of the machines arranged just as they are in the spinning room.

Rocky Mount's

Experience with Control Boards

Better production planning and more even distribution of work loads have resulted from use of control boards at this cotton yarn mill.

By P. F. MORRIS
Methods Engineer
Rocky Mount (N. C.) Mills

EXCLUSIVE

THROUGHOUT the industry, the realization of the urgent need for prompt planning and greater control of production schedules has become apparent. With scientific and highly technical methods of quality control and higher production being introduced, this need is greater than ever before.

Rocky Mount Mills have conducted detailed research in this field and have come up with control boards which furnish all information necessary for better production planning and more even distribution of job loads. The result is a working system of production control and better industrial relations.

Early Method. In November 1946, bottlenecks in the spinning department caused by rapid and spasmodic change in counts and constant fluctuation of job loads of operators forced us to take action. We spin a great many yarn numbers from 4s to 20s, regular and soft twists from single and double roving. We make what our customers want, and their specifications change from order to order. As the counts being spun change, job loads change for the operators.

Our first job, therefore, was to make time and motion studies to determine job loads for various numbers being spun.

Our first control board was very crude but practical in application. It was a black and white block drawing of the spinning department mounted on a board which also gave the production layout, machinery layout, and job layout. Two nails were driven into each block to indicate each productive side, and colored tacks were used to indicate the numbers being run. Rubber bands around the nails indicated the number of machines operated by each spinner. Numerous small cards carrying technical information necessary for a production change were kept in a large file. They were quite awkward to use.

By constant improvement, the system has been expanded and made more flexible as well as more compact. It is now composed

TWO NEW OILS SIMPLIFY LUBRICATION

Sunotex Machine Oil and Sunotex Machine Oil Light Give Superior Lubrication to 90% of the Friction Points of Textile Equipment

For bearings, cams, slides, gears

SUNOTEX MACHINE OIL

Textile mills no longer have to stock a confusing variety of oils for different machines. Sunotex Machine Oil—because of the many special qualities which have been built into it—meets *every* requirement of a general-purpose textile machine oil. Mills have been able to replace as many as five separate machine oils with just the one grade of Sunotex Machine Oil.

ELIMINATES GUESSWORK, SAVES TIME

Sunotex Machine Oil assures a faster, better maintenance job. Since there's only one oil to be used for bearings, gears, cams, slides and similar parts, no mistake can be made—no machine failure from wrong lubrication is possible. Further, with one lubricant instead of many for these parts, oil inventories are simplified.

HIGH LIGHT-STABILITY ENDS HARMFUL STAINING

Sunotex Machine Oil makes possible longer undyed fabric storage. Compared with competitive products in a standard Fade-Ometer test, Sunotex Machine Oil proved definitely superior in non-staining characteristics—*superior even to white oils.*

SCOURS OUT COMPLETELY

Sunotex Machine Oil saves money. Mill tests prove that Sunotex Machine Oil scours out completely from all fabrics — synthetics, wool and cotton.

PREVENTS RUSTING

Sunotex Machine Oil makes machines last longer. It assures absolute rust protection. Special metal-wetting properties displace any moisture present with a protective film of oil.

WITHSTANDS EXTREME PRESSURES

Sunotex Machine Oil always stays on the job. It lengthens equipment life by reducing friction and withstanding the extreme pressures found in some textile machines. Because it doesn't thin out excessively as the operating temperature increases, a cooling film of lubricant always remains in the bearings.

ADHESIVE

Sunotex Machine Oil keeps both the mill and the fabric clean. It stays on machine parts and off the fabric. Oil consumption and dye-resisting stains are minimized. Floors remain cleaner and safer.

For needles, sinkers, dividers and related parts

SUNOTEX MACHINE OIL LIGHT

This oil is essentially the same as Sunotex Machine Oil, but lighter in viscosity. It gives outstanding protection to needles at the critical point of presser contact and to other equipment needing a lighter viscosity oil. It is particularly effective in the lubrication of rings and travelers of spinning, twister and roving frames.

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Please send me Lubrication Data Sheets showing all the kinds of textile machines which can be lubricated by your two new oils.

My mill ☐ knits ☐ weaves ☐ cotton ☐ wool ☐ synthetics ☐ spins

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Company_____

City_____ Zone_____ State_____

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of scale models of all departments, coupled with a Kardex system which allows rapid collection of data required for production scheduling and control. These layouts give a complete and concise picture of the entire plant.

Data Available. The primary purpose of the charts is to permit work loads in the spinning department to be balanced and production demands met quickly when production changes are made to meet orders for varying yarn numbers. However, the charts serve a number of other purposes. By their use it is possible to:

(a) Balance production from one department to another.

(b) Have a visual guide for maintenance scheduling.

(c) Plan layout of new or relocated equipment.

Board Design. There is a board for each department in the mill: carding, spinning, twisting, and finishing. These charts are about 4 feet wide and 3 feet high. They are mounted with hinges on a Kardex board and table.

Each chart is divided into two parts. The upper part, which is in three sections, has large ruled and classified cardboard forms covered with vinylite. Symbols and information may be written on this vinylite with a grease pencil and may be rubbed off easily when there is a change. The three sections into which this upper portion is divided are labeled "Product Layout," "Machinery Layout," and "Job Layout."

The "Product Layout" section shows the number of machines and total deliveries in production for each product being manufactured. It also shows the standard production per machine or delivery hour. For example, a glance at this section of the control board for the spinning department would show the yarn counts being run, the twist for each count, the frames in production on each count, the deliveries on each frame, the total deliveries, and the standard production per machine hour. That tells about all anyone wants to know about the production layout at the time. Any change merely involves rubbing a figure off the vinylite and replacing it with the new one, using a grease pencil.

The "Machinery Layout" section shows the specifications for each group of machines in the department. Each machine is given a number, and this number is the same as the one used on the models which are located, in position, on the three dimensional department layout which makes up the lower half of the board. The purpose of this Machinery Layout section is to completely identify as to size, type, and make, any machine represented by a model on the lower half of the board.

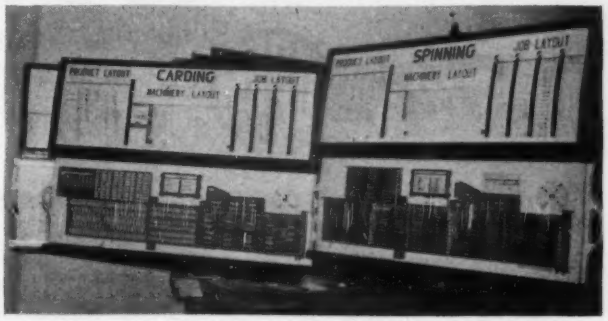
The "Job Layout" section, the last of the three sections on the upper board, shows the percentage job load being carried by every job in the department. Every job has a number, and beside this number is written the percentage job load at the time. This is another of the figures written on the vinylite with grease pencil, for these job loads are frequently changed, especially in the spinning department, and operators are paid according to the job loads they carry.

The bottom section of the board is made up of the miniature machine models painted in different colors and placed in the same relative positions which the actual machines occupy in the mill. These models of the departments are under glass and can be taken out easily to show any changes in machinery layout.

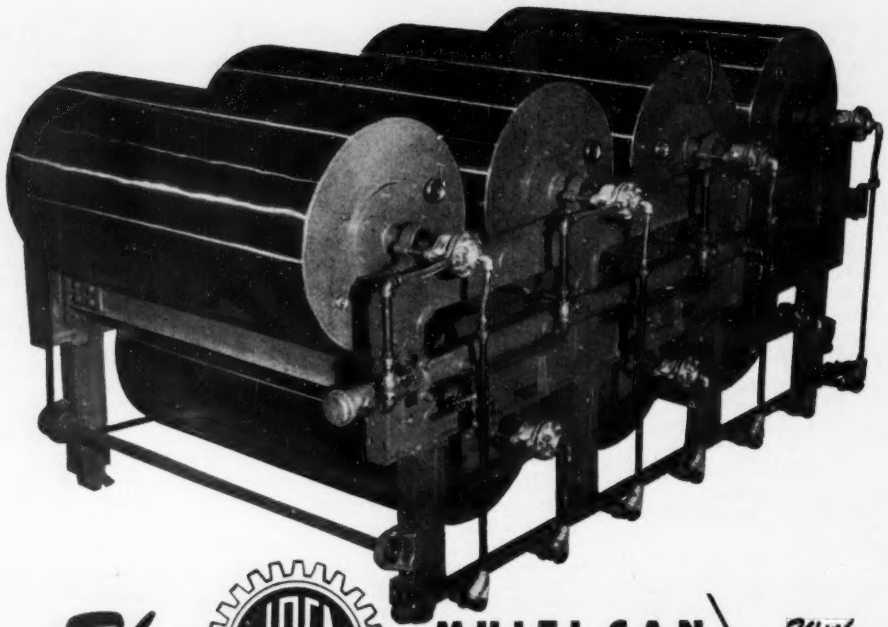
Operation. The production control board for the spinning department is the one most used, for it is in this department that there are the most frequent changes in production and in job loads. Rubber bands are stretched around the models on the base section to show those sides being handled by each operator. The spinner's number, on a pin, is placed inside the area encompassed by a rubber band, showing those machines which she operates. The job load represented is shown on the Job Layout section. Also, another colored pin shows the yarn number and type being spun on these frames.

Suppose an order comes in for yarn. This order is given to the superintendent of the finishing department, and he decides what yarn he needs to fill this order. He informs the production control department, which in turn contacts the superintendent of spinning, who advises which frames he wants changed to produce the yarn to fill the order. Having a control board in his office, the superintendent of spinning can quickly decide which frames he wants to take off their current production and change over to fill the new order. This decision of the superintendent of spinning is then indicated on his board and the control board in the production control room. Here is the way it is done.

Suppose the order had been for 16s regular, and the superintendent of finishing had decided that six sides should be taken off of 20s and put on 16s. The superintendent of spinning would then de-



CARDING AND SPINNING DEPARTMENT control boards are mounted in the production control room. Similar boards are in each individual department.



The WPF&M MULTI-CAN SLASHER

With 5, 7, 9, or 11 30" CYLINDERS

The WPF&M Multi-Can Slasher is designed to produce quality warps from fibers suited to this type slasher, at high speed and low operating costs.

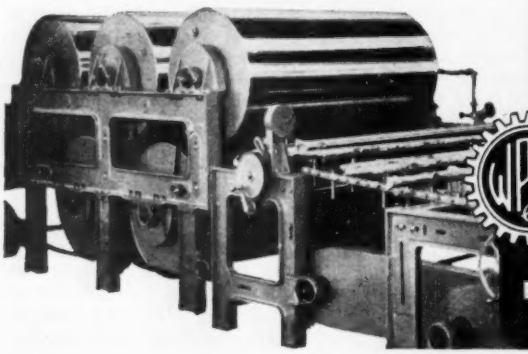
Furnished with either 5, 7, 9 or 11 thirty-inch diameter cylinders, the WPF&M Multi-Can Slasher can be adapted and equipped to fill any mill requirement.

If existing head ends and size boxes are in good condition, they can easily be adapted for use with the Multi-Can cylinder section. Or, the WPF&M Multi-Can Slasher can be furnished complete with any of several types of modern WPF&M head ends, drives and size boxes.

The polished, stainless steel cylinders, with welded-in steel heads, can be operated at pressures up to 35 psig. Rotary packless steam joints and sealed, self-aligning anti-friction bearings provide smooth, trouble-free operation. Each cylinder is equipped with vacuum valve, thermometer, condensate trap and flexible pipe connections. Temperature control can be provided for manifold, group or individual cylinder control.

Roller chain sprocket drive with tension idlers is smooth, quiet running. Either mechanical or electrical type tension control between cylinders and size box, and head end and cylinders are available. Heavy rigid cast iron frames, accurately machined to maintain alignment, support the cylinders.

The WPF&M Multi-Can Slasher is one of the complete line of modern Slashers manufactured by the West Point Foundry & Machine Company—specialist in Slasher Room machinery and equipment.



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HI-SPEED HEAD ENDS WITH STRETCH CONTROL
STANDARD WPF&M HEAD ENDS
MULTI-MOTOR DRIVES and CONTROLS
TEMPERATURE, SPEED and TENSION CONTROL DEVICES
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MODEL 50 SIZE BOXES
STANDARD SIZE BOXES
SIZE KETTLES and EQUIPMENT

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

cide which six sides he wants changed and so inform the production control room. On the models of the control board, the pins on the frames chosen, which are now on 20s, would be removed and pins indicating 16s would be put in their places.

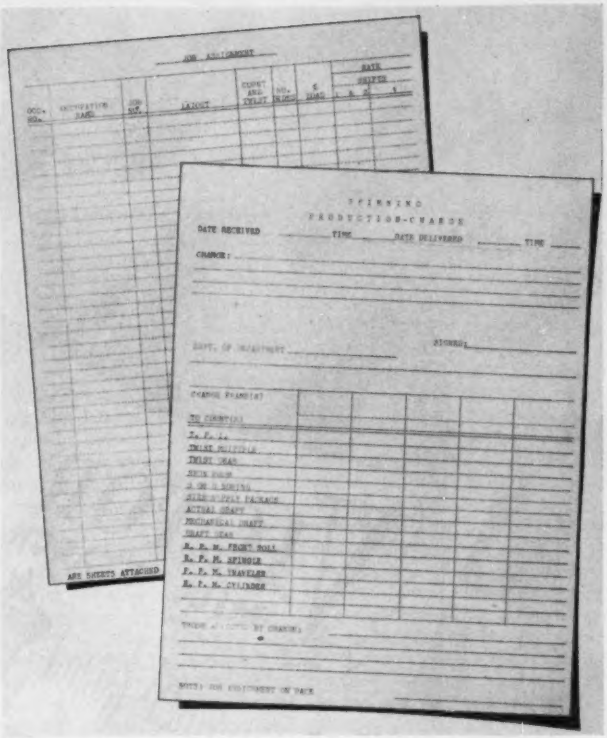
Immediately, a production change form would be sent to the superintendent of spinning, and this would give all of the data needed by the fixer to make the change. An illustration of this form shows all of the data given. It permits the changeover to be made without any calculations whatsoever. This changeover data is copied onto the form from a master form kept in the production control room. Any changes in job loads are shown on the reverse side of this sheet.

A change from 20s to 16s, would, of course, change the job load of the operator. This change would be calculated from tables showing job loads for each yarn number, and the new job load is entered on the Job Layout on the upper portion of the control board.

It may well be that a major change would increase the job load of an operator so much that she could no longer handle the same number of sides. If this were so, the rubber bands would be changed to show the required number of sides taken from that operator and given to another whose job load was not so heavy. In this way, job loads are balanced and each operator is kept as close to 100% as possible.

Production changes also change job loads of doffers. The machines handled by doffers are not indicated by areas encompassed by rubber bands but by drawing a box around the area handled. This box is drawn on the glass covering the scale models. Should a doffer's job be changed, the new work area is shown by rubbing off the old box and drawing in the new.

The back of the production change form sent to the superintendent of spinning is used to show these job changes and changes in job loads, so as soon as he receives this form and the new change gears have been put on the frames, he assigns the operators as instructed.


SPINNING
PRODUCTION-CHANGE
DATE RECEIVED
DATE DELIVERED
CHANGE:
ARE SHEETS ATTACHED

SPINNING PRODUCTION CHANGE SHEET used in connection with the control board system.

Kardex System. Non-productive jobs cannot be shown on the scale model, so they are recorded on a Kardex System which is mounted on the control board frame. Information kept in this manner is designed to give data required when changes in production are ordered. One set of Kardex cards shows "Standard Labor Practice," "Production Standards," and "Technical Information." Another set known as "Authorized Labor," shows:

(a) Job number and machine load for the non-productive jobs.

(b) Occupation number and name.

(c) The number of jobs authorized for each shift for each occupation.

(d) The total number of occupations for each shift and a grand total for all shifts.

Other Departments. Other departments in the mill do not have nearly so many production changes as the spinning department, and job loads are not frequently changed, but each department has found, through experience, good use for the boards. For example, the superintendent of carding keeps his grinding, reclothing, and other maintenance records on the board so that he can tell at a glance exactly what maintenance work is in process and planned.

The finishing department not only uses its own board, but it keeps a product layout board for both the twisting and the spinning departments so that planning may be intelligently done. Similarly, the twisting department keeps a product layout board of the spinning room.

A third set of the scale models was made and fitted into a case which could be carried from place to place in planning new machinery layout or relocation of old machinery. Although this was of some

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Problem of Creeping Inflation

By RINGGOLD ARDEN

EVERYBODY talks about inflation, but nobody does anything about it—except to make it worse. Nearly everybody is opposed to it in principle, but heartily in favor of it in practice. People complain about it furiously as it affects their expenses, but clamor for it insistently as it affects their incomes.

Various important members of the federal government, from the President on down, have inveighed against inflation, while busily engaged in creating more of it. As we have repeatedly pointed out, the officers of our government, in warning us of the dangers of inflation and the necessity for preventing it, have invariably advocated means for suppressing the effects of inflation, without doing anything of consequence to prevent the inflation itself.

The price controls with which the government is now wresting will be not only futile, but positively vicious, and incredibly harmful, if no steps are to be taken to prevent the continuing inflation which pushes prices up. No government has ever been able for long to control prices without controlling the supply of money which makes prices.

What is a price anyway? It is what someone is willing to give to get possession of something else. In our economic system, it is almost invariably the amount of money someone is willing to give to obtain certain goods or services, and when we speak of prices going up, what we really mean is that the value of money is going down. Money is the one commodity the price of which has steadily declined for the past 18 years. A hog, a yard of cloth, or an hour's work will buy more money than ever before. The real values, in terms of each other, of a hog, a yard of cloth, or an hour of work, have probably remained very nearly the same during all of those 18 years—it is just the money which is cheaper.

Like any other commodity, money becomes cheaper as it grows more plentiful in relation to other commodities. For 18 years it has been the continued policy of the federal government to make money cheaper and more plentiful, which is just another way of saying that it has been the policy of the government to force prices up.

This constantly expanding inflation has already consumed a very large portion of the accumulated wealth of the country, and the psuedo-prosperity of the present time is based on government debt rather than individual wealth. Practically all of the real money, which represented the real wealth of the country, has been taken out of nearly all of our financial institutions and replaced with government I. O. U.'s which represent nothing but promises to levy taxes. The great expansion of bank deposits and the increase in the nominal value of insurance policies and savings accounts represent practically nothing more than accumulations of increased quantities of these federal I. O. U.'s, which are public liabilities rather than public assets.

The President spoke to the nation on the night of June 14 on the subject of inflation, but his speech was devoted almost entirely to price control, and practically noth-

(*Continued on page* 188)

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help, it was found that the boards, as designed, were not flexible enough. It was too difficult to move the models about. We now believe that the best type of board for this type of planning would be one arranged with pegs in the base of the models and a multitude of holes cut in the board so the models could be placed anywhere. A magnetic board could be used with iron models or wood models with a spot of iron in their base. This would be ideal for planning machinery layout.

Benefits. To be able to locate active running products and visualize labor layouts at a glance is one of the most important time-saving features afforded by the control board system.

Use of the control boards is not confined solely to the production department and departmental superintendents. It is also used by timekeepers, laboratory test clerks, and the training director. For example, it is not necessary for the timekeeper to check Job Layouts with the department superintendent in making out time records. The laboratory test clerks can determine the machines from which to take scheduled counts for tests. The training director uses Kodachrome slides of the control boards in visual training of new employees. In this way they get a better understanding of the plant layout and flow of materials.

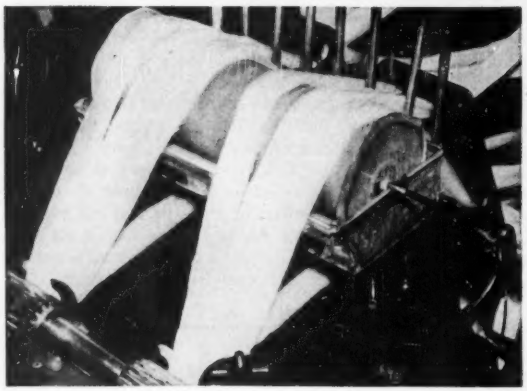
We think the system has been a success. It has been of most value in control of spinning production, for it is here that changes are most frequently required, and we would suggest that any mill planning to use this system set it up first for those departments in which production changes are most frequent, adding other departments if and when required.

the FEW extra ¢ents that make a LOT of sense

When it comes to producing worsted yarn, there is always this important question: Should a spinner spend a few more cents than absolutely necessary when processing top, to try and achieve more efficient production and better finished products? In the case of Nopco* 1656-R, the answer is "yes".

Today; the price of top is the highest in history. Thus the few additional cents involved in the purchase of Nopco 1656-R become insignificant in the face of over-all costs. Moreover, the unique advantages afforded by this remarkable oil far outweigh its price differential when compared to alternatives. Just consider:

NOPCO* 1656-R...



*Reg. U. S. Pat. Off.

1. ***provides excellent lubrication and eliminates static in worsted sliver. Result: no fly from top treated with this oil—fewer ends down in spinning and winding—much less brush waste;***
2. ***increases the drag, and thereby gives a better draft—resulting in more even and cleaner yarn;***
3. ***scours out with phenomenal ease—actually converting into suds when used with alkali, polyphosphate and water;***
4. ***applies equally to all production systems —American, Bradford or French—and is extremely advantageous on pin drafters.***

Yes, it will profit you to use Nopco 1656-R wherever you employ a lubricant in your top-processing procedure. And it will profit you to specify Nopco 1656-R, as a number of spinners already do, whenever you purchase oil-combed top. You'll pay a few more cents above "rock bottom" perhaps, but when you examine your finished yarns, you'll know you have produced high quality products with surprising economy.

NOPCO
EVOLVED THRU RESEARCH

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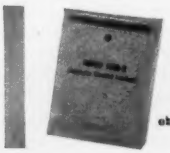


Send for your FREE copy of this bulletin giving detailed information about Nopco* 1656-R

Profits from Effective Textile Machinery Lubrication

Article 2—Carding*

THE CARD is in every sense a precision machine. The settings of its various assemblies are made with exactness to thousandths of an inch. Each setting must be accurate, not only for distance, but also in relation to the other assemblies. Otherwise, the quality of the processed sliver suffers.

Make no mistake about it: the mechanical condition of a card predetermines the character and production of the finished yarn.

import of card assembly settings

Feed Roll. When there is excessive wear in feed roll bearings, this is due usually to faulty lubrication. The mass of cotton is then not held firmly and evenly enough to prevent relatively large tufts from being pulled through by the licker-in. This condition results in variations in the processed sliver.

Licker-In. Unless the setting of a licker-in allows prompt and uniform transfer of the cotton or other fibers to the main cylinder, the screen of the licker-in becomes loaded, and the fibers themselves are damaged. When the bearings of the licker-in are worn excessively, therefore, or worn out-of-round, the stock is practically ruined for further processing.

Oily coatings on the licker-in screen, resulting from over-lubrication, serve to accumulate dust and lint, which can further injure the processed fibers. Much good stock is then found in the waste.

Main Cylinder. Leakage of a lubricant from the bearings of the main cylinder can stain the clothing, contaminate and damage the processed fibers. This is usually the result of excessive or faulty lubrication. Excessive leakage can also mean oil-soaked floors, oil waste, fire hazard, and unnecessary hazard to operating personnel.

Flat Mechanism. Inability to maintain accurate settings and parallelism of the flats has often been due to bearing wear. Moreover, when the bearings of the flat chain idler pulleys are neglected, they are likely to stick, or even rust. This causes excessive friction, wear, and unnecessary power loss. Driving worm and worm gear must be kept adjusted, cleaned, and properly lubricated to permit smooth, uniform motion.

By F. S. JONES
Lubricating Department
Socony-Vacuum Oil Company, Inc.

EXCLUSIVE

Otherwise, the quality of the processed sliver suffers.

Doffer Cylinder. If the bearings of the doffer cylinder are worn considerably, it cannot do a reasonably good job of removing the web of fibers from the main cylinder, because parallelism of these cylinders is affected, and the processed sliver varies in uniformity.

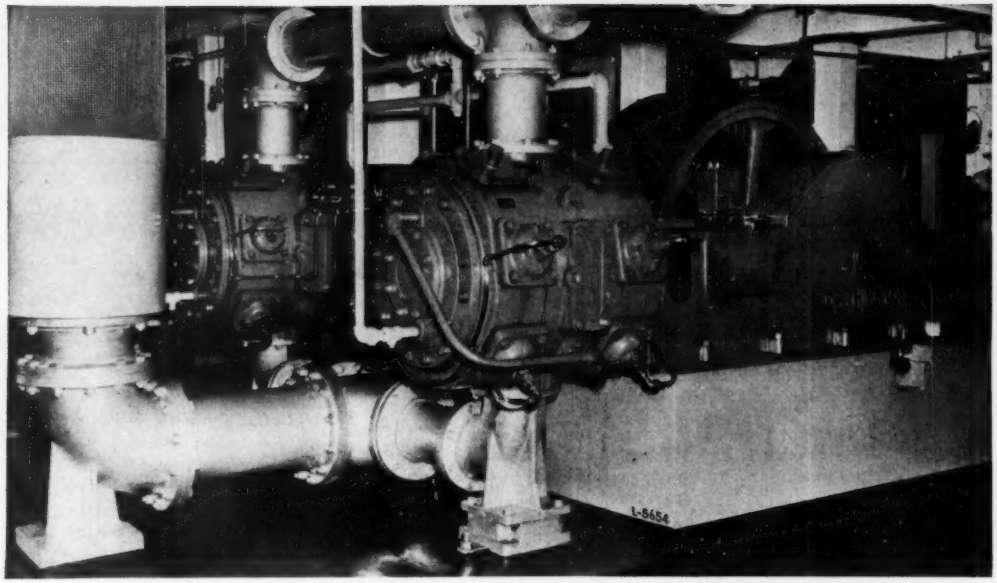
Doffer Comb and Comb Box. The teeth of the doffer comb must be set close enough to the clothing on the doffer to (a) remove as much good staple as possible, (b) avoid loading the doffer, and (c) produce an even web. Too close a setting, however, removes objectionable neps (i.e., small bunches of tangled and immature fibers), leaf, and short fibers. Once the proper setting has been established, anything that disturbs it affects the weight and quality of the sliver. That is why the comb box, which actuates the comb, is one of the most important assemblies on a card.

comb box lubrication

Any defects resulting from faulty carding cannot be corrected in later processing. The continued maintenance, therefore, of accurate adjustments and cleanliness by reducing wear and leakage with good lubrication has an important influence on production, production cost, and ultimate profits.

The best lubricant for a comb box must be fluid enough to creep into the comb shaft bearings, to penetrate quickly to all other lubricated surfaces, and to flow back

*Lubrication of opening and picking machinery was discussed in Article 1 which appeared in the July issue.



Worthington DC air compressor.
Piping installed by American Moistening Company.

IT SAVES POWER COSTS

regardless of weather!

This air compressor takes it easy on the motor whenever favorable humidity conditions lessen the demand on the humidification system.

It's a Worthington DC air compressor —part of a humidification system at Berkshire Fine Spinning Associates' Albion, R. I. mill.

Five-step capacity control matches air capacity to the varying amounts of water required by the system. This means a substantial reduction in power consumption when the compressor runs at partial load.

Accurate to within 1½ psi

So sensitive is the capacity control that it—*holds air pressure within a maximum variation of 1½ psi throughout five different steps of control!*

Worthington's 5-step capacity control governor is exceptionally sensitive because it performs *only pilot duty*. The actual unloading is done electrically and pneumatically. But the pumping rate is continuously under the *control* of the governor. With increase or decrease in system pressure, the governor causes the compressor to reload or unload in sequence.

Worthington's by-pass method of control not only saves power (particularly at partial capacities), but also reduces operating temperatures, thereby eliminating valve difficulties from carbon deposits, improving lubrication, and reducing cylinder wear.

Like Father . . . Like Son

This 17 x 22 DC air compressor, running 24 hours a day, 5½ days a week, has now been operating 1½ years without a sign of trouble. It replaced a smaller-capacity Worthington air compressor which operated satisfactorily for 35 years and is still used as stand-by.

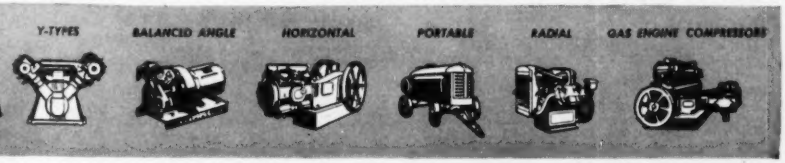
For steady reliable compressed air, always specify Worthington. For more proof there's *more worth in Worthington*, write for Bulletin L-675-B1B to Worthington Pump and Machinery Corporation, Compressor Division, Buffalo, N. Y.

WORTHINGTON

NO OTHER COMPRESSOR WILL OUTPERFORM A WORTHINGTON

*Reg. U. S. Pat. Off.

K-1.7



swiftly to the reservoir for recirculation. It must have enough film strength to protect against metal-to-metal contact when the many intermittent impacts squeeze out the full fluid films from between the moving parts. It must be stable enough to resist oxidation and breakdown at the operating temperatures encountered in long continued service.

Chatter and leakage in a comb box should be corrected by:

(a) Taking up end-play in the eccentric shaft;

(b) Replacing worn bearings;

(c) Replacing worn seals and other worn parts;

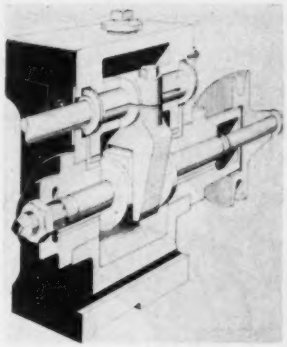
(d) Cleaning out plugged oil passages so that a suitable lubricant can drain back to the reservoir, instead of seeping out around the comb shaft or eccentric shaft.

The lubricant recommended for a comb box is a good general purpose textile oil.

Oil Level. Keeping the correct level of oil at all times is of the greatest importance. Too much oil will cause excessive churning, perhaps foaming, overheating, thinner lubricating films, unnecessary wear, and leakage. Too little oil will reduce the amount splashed to the parts that depend on this supply for their lubrication. Friction and overheating will result, eventually causing excessive wear, noisy operation, and leakage.

Many comb boxes are filled through a breather port at the corner of each box. This hole is located at such a height that the box cannot be filled too full if the oiling is done while the card is idle. A safe operating level is assured if the oil may still be seen in the breather.

Oilers should note carefully the level of oil in the comb box housing as a part of their daily routine. During operation, much of the oil that is already in the box is splashed to the upper portion of the housing and clings to the many moving parts. The level of oil in the housing, therefore, is always lower when a card is running than when it is idle. For this reason, no attempt should be made to add makeup while a card is still running. At the next shutdown, the oiler should inspect the box again.



SECTIONAL VIEW OF COMB BOX. Oilers should note carefully the level of oil in the comb box housing as a part of their daily routine.

and add makeup if necessary. Ordinarily, this should not be required oftener than once a week.

Oilers should report comb boxes that are running hot. In normal operation, all boxes will run quite warm but, if any box gets so hot that an oiler cannot hold his bare hand on it, something is wrong. If the level of oil is at its proper height, then the high temperature may be caused by clogged oil passages. If removing the top cover shows this to be the case, the box should be removed as soon as possible, disassembled, and cleaned.

Just because a comb box feels reasonably cool, however, does not always indicate a safe temperature inside. Sometimes deposits of sludge from an unstable lubricating oil, or deposits of soap from a semi-fluid grease, will coat and insulate the inside of a comb box, so that heat is confined inside the box. The outside then feels only warm, while the inside is hot. Unless this condition is discovered in time and the box promptly cleaned, excessive wear, noisy operation, and leakage will eventually result. The best insurance against the premature accumulation of deposits is the use of a highly stable, correctly chosen lubricating oil.

cylinder bearings

The bearings of the majority of main and doffer cylinders, and the bearings of older designs of lickers-in, are plain cylindrical bearings. When these bearings are not properly lubricated, the fibers in process are stained by the excess lubricant which leaks from the bearings and travels inward along the faces of the licker-in screen, clothing, and flats.

Plain Bearings. The boxes of plain cylinder bearings have hinged covers. These should be packed with a No. 3 or No. 4 cup grease, the choice depending on the average room temperature. Then, when each cover is closed, a projecting tongue on the underside of the cover pierces the grease and provides a space for the hand application of a good general purpose textile oil, which should be applied sparingly once every shift.

This packing of grease acts as a

Profits from Correct Lubrication

The profits that can be obtained by the proper application of correct oils and greases in a card room may be summarized as follows:

1. Maximum production of clean, uniform sliver for further processing.
2. Freedom from losses caused by oil stains.
3. Less downtime for adjustments, repairs, or replacements.
4. Low maintenance costs.
5. Low power requirements to operate the cards.
6. Less fire hazard and greater personal safety, because excessive oil leakage is eliminated.
7. Lowest overall lubrication cost.

COLORS *that wont fade out...*

Du Pont Vat Colors are well known for all-around fastness to sun, laundering, perspiration or dry cleaning. And Du Pont vat dyes assure you deep penetration, uniformity and brilliance.

You can choose your colors from a wide selection—in Du Pont PONSOL* and LEUCOSOL* (anthraquinone-type dyes) and SULFANTHRENE* (indigoid and related dyes). Our Technical Staff will be glad to help you find the right dye—and the right method of application—for all of your fabrics.

E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

*REG. U. S. PAT. OFF.

Always dye with an eye to the end use

DU PONT
REG. U. S. PAT. OFF.

Du Pont Dyestuffs

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

seal to prevent leakage of oil and affords a reserve supply of lubricant to prevent excessive wear if, for any reason, the supply of oil is exhausted, or daily application is neglected.

The covers of plain bearing boxes should be kept closed to keep out fly. Once a year, they should be thoroughly cleaned and packed with fresh grease.

Anti-Friction Bearings. When the lickers-in and cylinders are equipped with anti-friction bearings, these bearings should be lubricated with a high quality anti-friction bearing grease, which is applied every four to six months by means of a gun. Over-packing is as detrimental as under-packing.

Other Bearings. Plain bearings, operating at speeds *higher than* 100 *rpm* should be lubricated once every shift with a good, general purpose textile oil. Ports are provided for its application, and the oil should be used sparingly but regularly.

Plain bearings operating at speeds *lower than* 100 *rpm* should be lubricated also with a good general purpose textile oil, but not much oftener than once a week.

Bottle oilers with unbreakable plastic bottles are sometimes used because their feed is extremely small and continuous.

Open bearings of the spiral brush should be greased sparingly every month with a No. 3 or No. 4 cup grease.

Worm Gear Drives. Open worms and worm gears should be oiled once every shift, using a good general purpose textile oil sparingly.

Age of Full-Fashioned Knitting Machines

The average age of all full-fashioned hosiery machines in the U. S. is 12.56 years, according to a survey by Textile Machine Works. Other facts: the number of machines in place dropped about 1%, while the number of sections increased approximately the same amount; 11,464 full-fashioned knitting machines are now installed; the South continues to gain in the number of machines, now having 42.7% of the total.

Woolen and Worsted Research Listed

In a recently published 1951 supplement to The Wool Bureau's "Suggested Research and Development Studies for the Woolen and Worsted Industry" the original summary (issued in January 1950) is brought up to date and the notes on current work are amplified by mention of work abroad.

Specific locations are given where research is being conducted on the following:

(1) Methods of measuring the physical characteristics of wool and the determination of their importance in processing and in the ultimate performance of wool fabrics;

(2) The chemical structure of wool and its relationship with the physical characteristics;

(3) Sheep marking and branding fluids;

(4) Determination of the market value of fibers of different commercial sorts of fleeces as related to the genetic background of the individual animals, and the lines or combination of lines to which they belong;

(5) A study of the effectiveness of various skirting and sorting procedures which might be carried out at ranches, concentration points, or warehouses;

(6) Simplified tests for measuring fiber characteristics;

(7) Study of wool scouring by the use of suint in the presence of propyl alcohol and common salt; also with high boiling solvents to avoid felting of aqueous scours;

(8) Determination of basic constituents of wool grease ;

(9) Measurement of yarn characteristics;

(10) Study of basic principles of mechanical processes such as carding, spinning, etc.;

(11) Study of dyeing of wool; shrink resistance; mothproofing;

(12) The scientific approach to fabric design;

(13) Clothing as protection in extreme climates;

(14) Development and evaluation of fabrics containing wool;

(15) Water and air permeability;

(16) Abrasion resistance of textile fabrics;

(17) Quantitative evaluation of subjective characteristics.

power saved

The card room may consume from 10 to 20% of all the power used by a mill. In addition to the savings in maintenance and the savings represented by increased acceptable production, a worthwhile power saving can often be made by the proper application of correct textile lubricants. For example, the following test was conducted on 72 Whitin 60 x 40 cards (70 of which were in production, while 2 were grinding). The plain bearings of the lickers-in, cylinders, and doffers were grease-packed and supplementary oiled. The group of cards was driven through line shafting and plain bearings by a 100-hp motor:

Lubricant	Starting Load (kw)	Average Running Load (kw)	Friction Load (kw)
Ordinary Oil	76.25	67.5	11.75
Good Textile Oil	61.75	56.2	8.00

The friction load tests were made with shafting and loose pulleys running, but with the cards idle.

The possibilities for savings may be greater with group drives, such as this, than with unit drives.

(To be continued)

It's eye-appeal that sells! Because DURA BEAU *finishes give stockings that smooth, smoky-dull allure—plus extra resistance to runs, pulls and spots—more hosiery is glamourized by* DURA BEAU *than by all other finishes combined!* DURA BEAU *makes all textiles more* DURA*ble . . . more* BEAU*tiful!*

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TEXTILE FINISHES

SCHOLLER BROS., INC. • Manufacturers of Soaps, Softeners, Sulphonated Oils and Finishes • Collins & Westmoreland Sts., Phila. 34, Pa. • St. Catharines, Ont., Can.

CALCO dyelines

Advertisement
No. 21 of a series

Calco

CALCONYL* DYES for Printing

With the recent addition of Calconyl Violet B Powder and Calconyl Red B Double and Single Solutions, the

line of Calconyls now presents a wide range of powder and solution types to produce practically any desired shade. These products are especially recommended for economical roller or screen printing of tablecloths, handkerchiefs, towels and similar applications.

As a group the fastness to light is ample for these uses, while the fastness to most other common treatments destructive to color such as washing, perspiration and dry cleaning, is excellent.

These products can be supplemented with Calco Soluble Vat dyes to fill the requirements of the progressive printer.

Your Calco Representative will be glad to supply further information and samples upon request.

*Trade-mark

Chrome Dyes for Military Fabrics

The chrome dyes have long been reliable for the dyeing of woolen military fabrics. They offer extremely good fastness and, at the same time, good controllable dyeing properties. Even though fabrics for special uses may be dyed with other types of dyes, the chrome dyes remain well entrenched for the regular run of fast color fabrics. Some of the Calco line of chrome dyes which may be recommended for these uses are:

Calcochrome* Dyes:
- Calcochrome Yellow 2G
- Calcochrome Yellow G
- Calcochrome Yellow FC
- Calcochrome Orange LC
- Calcochrome Orange GR
- Calcochrome Brown PG
- Calcochrome Brown EB
- Calcochrome Alizarine Blue Black B

*Trade-mark

Notes on the Operation of Open-Width After-Treatment Ranges

The current scarcity and high cost of chemicals demand that open-width ranges for rinsing, oxidizing and after-treating vat and sulfur dyeings be operated with utmost efficiency. The following points are worth attention:

1. Except for very open weaves or very unevenly surfaced fabrics, hard rolls which are properly crowned will extract liquids most efficiently.

2. The higher the temperature, the greater the extraction effect.

3. The slower the cloth speed, the greater the extraction effect.

4. Elliptical rolls at suitable locations in the treatment boxes greatly promote the interchange of liquor between bath and cloth.

5. Hot water sprays at the nip of wash-box squeeze rolls speed up the removal of surplus chemicals.

6. Well-designed and correctly placed overflows insure the desired countercurrent liquor flow and allow scum to flow away readily.

7. A steam-filled housing enclosing the upper guide rolls of selected boxes accelerates oxidation, soaping and similar treatments.

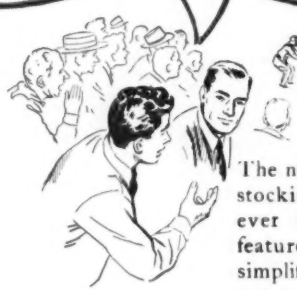
For the Textile Bookshelf

Reprint of Paper by 1950 Olney Medalist:—A Review of Textile Coloring and Finishing Research by G. L. Royer (Calco Technical Bulletin #818). Covers the important scientific contributions in the dyeing of wool, acetate rayon, nylon and viscose rayon, and the printing and finishing of textiles. Points up the need for increasing cooperation between the dyer and the scientist.

Dying of Wool Stock and Slubbing with Vat Colors (Calco Technical Bulletin No. 819—Supplement to Calco Technical Bulletin No. 797 issued in 1947). This brings the reader up to date on improved dyeing techniques and passes along knowledge derived from extensive mill applications.

Calco used approximately four pounds of 24-carat gold in the maintenance of plant equipment in 1950.

it's a case of better fabrics, faster



"We can't talk ourselves out of this one—they're getting 15 or more dozen pairs of finest quality hosiery fabrics in 8 hours with their new Reading Machines."

• • •

The new "Reading" Machines are producing full-fashioned stockings of superior quality and at higher speeds than ever before possible. Many exclusive "Reading" features give higher precision in operation and greatly simplified control . . . 30 sections . . . 51 and 60 gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

The "READING"
Full-Fashioned Knitting Machine

Central Lubrication . . . Village Maintenance . . . Salvage and Supply . . .

discussed by Alabama mill men at Birmingham meet

*Staff Report**

Centralized Lubrication and Machinery Maintenance. In discussing systems of centralized lubrication and production machinery maintenance, several mills gave answers as follows:

Mill A. Our program of centralized maintenance covers all production machinery from opening through cloth inspection and packing. The program is set up on schedules by which every machine is overhauled in cycles, the length of which is determined by observation and experience as to the length of time the machine will give practical, trouble-free operation. This program is carried out by a department separate from the various production departments.

The lubrication program is set up within the maintenance department, and the lubrication personnel are directly under the supervision of the foreman responsible for the maintenance of the various machines. The frequency of application, methods, and types of lubricants used are determined by the combined efforts of the technical and maintenance department along with the department overseer whose machines are being serviced.

In many instances we have been able to install centralized lubrication systems on machines with a resulting saving in man-hours, lubricants, and replacement parts. Machines we have equipped with centralized lubrication systems include: looms, roving frames, pickers, spinning frames, twister frames, rope machines, waste machines, quill strippers, gear cutters, and cloth brushers.

Electric powered grease guns are utilized to a great advantage on machines where a large number of grease type bearings is required. The lubricants are stored at conveniently located stations and, so far as practicable, are not transferred from the containers they were shipped in.

S. W. QUISENBERRY, manager maintenance sales, finishes division, Du Pont Co., was guest speaker at the meeting. He spoke on the subject of protective coatings in mill and village maintenance.

Mill B. Each of our plants has its own maintenance crew, and the work is scheduled in accordance with the regular routine overhauling. We overhaul spinning frames once each year, drawing frames once each three months, and fly frames once each year. Pickers are overhauled once each three months.

Our spinning frames are equipped with one-shot lubrication systems. Each department has an oiler, and this man does the regular oiling and looks after the one-shot systems also.

Mill C. We have two men who go through the rooms and oil all line shaft bearings and do all grease jobs that are assigned to our department. We do a great deal of production machinery maintenance such as refitting crank shafts, rollers, all gears, broken parts to be welded, and cylinders for spinning frames.

Mill D. We have an oiling crew under the oiling foreman who is under the supervision of the master mechanic. All oiling, except on spoolers and warpers, is done by them.

Mill E. We have a few machines

*This is a continuation of TEXTILE INDUSTRIES' report of the spring meeting of the Alabama Textile Operating Executives. For the first part of this discussion, see the July issue. It begins on page 113.

100 Years of Service

100 YEARS is a *large* sector of time. Back in 1851, when Charles Morningstar, grandfather of Joseph Morningstar, present head of Morningstar, Nicol, Inc., founded the company, the California Gold Rush was at its height; Millard Fillmore was President of the United States, Daniel Webster was Secretary of State. Henry Clay's effort toward the admission of New Mexico and Utah as Territories had just succeeded. From a humble beginning, so long ago, the Morningstar Company has grown until it now has operations in 20 states. Especially rapid progress and expansion has occurred during the past decade. In addition to the plants and sales activities listed on this page, Morningstar, Nicol, Inc. also imports Tapioca Flour from Brazil, Arrowroot from the West Indies, as well as Starches and tropical Gums. You will find us keenly alert to every opportunity to render a valuable service to all industries.

PRODUCTION AND SALES FACILITIES

The extensive, highly efficient facilities of the following plants and laboratories are at your service.

INDUSTRIAL ADHESIVES
SYNTHETIC RESIN AND LATEX CEMENTS
TEXTILE MILL SPECIALTIES
PAPER MILL SPECIALTIES

PAISLEY PRODUCTS, INC.
PLANTS AT CHICAGO, ILL. AND NEW YORK CITY
Sales Offices and representation in principal cities

DEXTRINE AND STARCH PRODUCTS
MORNINGSTAR, NICOL, INC.
PLANT AT HAWTHORNE, N.J.

POTATO STARCH
AROOSTOOK POTATO PRODUCTS INC.
Houlton, Maine
MAGIC VALLEY PROCESSING CO.
Twin Falls, Idaho
NEW ENGLAND STARCH CO.
Houlton and Mars Hill, Maine

MORNINGSTAR, NICOL, INC.

630 WEST 51st STREET
NEW YORK 19, NEW YORK

1770 CANALPORT AVENUE
CHICAGO 16, ILLINOIS

equipped with centralized lubrication systems which we like very much. Our lubrication is handled by an oiling crew which works on a schedule layout.

Mill F. In November 1947 the idea of centralized lubrication was put into practice in the weave room. The program has developed, and now it includes all mill lubrication, with few exceptions. We try to use as many labor saving devices as possible and have put into service the following:

(1) One-shot lubrication systems.
(2) Bottle oilers.
(3) Header blocks.
(4) Electric grease guns.
(5) Electric spindle oilers.
(6) Air-operated lubricant transfer pumps.
(7) Loader pumps for hand grease guns.

All of the equipment used has been successful in various applications within the plant.

Production machinery maintenance is the responsibility of the respective departments.

Mill G. We have one-shot lubrication on all of our spinning frames. It is an effective method of oiling and saves a considerable amount of the oiler's time for other duties.

Our production machinery maintenance is set up on schedule as follows: Opening machinery is overhauled once per year; pickers, once per year; spinning, once per year; spoolers, once per year; twisters, once per year; beaming and slashing equipment, as needed; looms, once every three years.

Mill H. We have an oiler who lubricates all machinery and motors except production machinery for which each department has its own system.

Village Maintenance. In answer to a request for outlines of systems in use for village maintenance, several mills submitted answers as follows:

Mill A. We use wood preservatives on underground wood structures, sills, and joists. Very little work is contracted; exceptions are large construction jobs. All work is done by mill crews, except on large jobs.

Mill B. All village carpenters and painters are under the supervision of one man whose full-time job is village maintenance. All houses are given one coat of outside paint every three years. Each time a house becomes vacant, all necessary carpentry work is done, and an inside coat of paint is applied. We are using a rubber base paint inside and find it very economical, particularly where natural gas is used for heating.

If a house does not become vacant and repairs need to be made, the occupant usually asks for the repairs to be made. Wood steps needing repair are replaced by prefabricated concrete steps.

Mill C. Our system of village maintenance is taken care of by contract 100 per cent. At the present time we are not using any wood preservatives.

Mill D. We have a small amount of village maintenance. We do small jobs on the water system, electric system, and small amount of wood and glass work. In instances where we think wood preservatives are needed, we order the wood treated before it is delivered.

Mill E. We use wood preservatives on all our steps, sills, and porch floor joists. We do not contract any repair work, and no work is done by mill personnel.

Mill F. We have a foreman, carpenters, painters, and helpers. Masonry work is done by a mason from the shop. Our carpenters also do some painting, and the painters are capable of doing carpentry. The helpers keep the grass cut, trim hedges, and help on major repair jobs.

Wood preservatives are used on studs, sills, wood steps, and wherever needed. We have used pine oil, creosote, and several other good preservatives. No work is contracted to outside firms. All repairs are done by village personnel except masonry, carpentry, roofing, painting, electrical, and plumbing.

Mill G. Village maintenance is set up under an overseer, and all carpentry and painting is under the supervision of this overseer. Street, alley, plumbing, and electrical maintenance are handled through a centrally located service division which is operated by our company, and the services are for five plants situated within a seven-mile radius. Wood preservatives are not used extensively, and no jobs are contracted.

Mill H. Our village maintenance is handled by a department set up for that purpose. Requests for repairs or improvements to village houses are accepted through the personnel office. Written orders from the personnel department are forwarded to the village overseer.

EMMETT WARREN, vice-president, Avondale Mills, Sylacauga, Ala., conducted the discussion forum at the meeting.

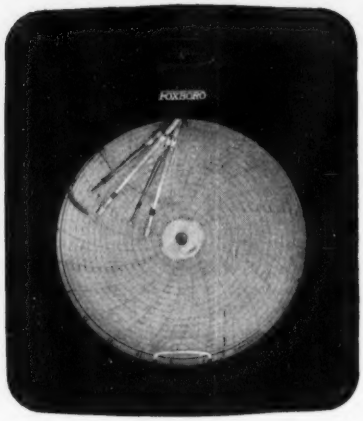
Requests for general maintenance, such as interior painting, are arranged according to the date the order is written and are done in that order with few exceptions.

The village department operates under a budget for each type of work to provide the necessary appropriation for standard repairs and to hold in line the amount spent for various types of improvements. An effort is made to follow a planned program of painting every five years, both interior and exterior. Accurate records are kept on the individual house repair costs. A planned program for re-roofing a certain percentage of the houses each year is followed.

We have used very few wood

WET AND DRY BULB INSTRUMENTS

These Foxboro instruments give separate wet and dry bulb records on the same chart . . . in dry bulb ranges from 32°F. to 212°F. They are exceptionally accurate and stable. Bulbs can be placed up to 200 feet from the instrument. Available as recorders, or air operated (Model 40) and electric (Rotax) controllers, including multi-zone and time-humidity controllers.



DIRECT-READING DEW POINT INSTRUMENTS

Foxboro recently introduced the first simple, continuous dew point measuring instruments for industrial use. Their patented humidity sensitive element, the "Dewcel", requires no water box or moving air. Accuracy is unimpaired by dust or lint. Foxboro recording and controlling instruments, used with the "Dewcel", give direct readings from —20°F. to 160°F. dewpoint, at dry bulb temperatures up to 220°F. Readings easily converted to absolute or relative humidity. Foxboro instruments for dew point include liquid expansion type and electronic type recorders and controllers . . . with either pneumatic or electric control action. The Multi-Record Dynalog* for dew point provides up to 6 records on a single round chart.

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Ever since it introduced the first successful long-distance wet-and-dry bulb psychrometer, Foxboro has pioneered in the development of new and improved methods for the measurement and control of humidity. In its knowledge of textile process requirements, and its complete line of better-engineered instruments, there's more than likely the ideal solution to your own problem.

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FOXBORO HUMIDITY INSTRUMENTS

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preservatives. Our experience with contracted work on the village has not been satisfactory, and all village work is done by the village maintenance department.

Mill I. Carpenters go from house to house in sequence; after all houses have been gone over, they go back to the starting point and repeat. All sills and joists are replaced as needed with creosoted lumber. All painting is contracted for at a specified price per room on the interior, and by the house on the exterior. Mill personnel do all electrical, plumbing, and carpentry work.

Cleaning and Maintenance of Humidifiers. A majority of the mills reporting their procedure for cleaning and maintaining humidifying systems had several different types of systems within the mill. Several answers indicated that regular crews attended to all of the humidifiers, and others stated that one man in each department took care of the equipment. Cleaning intervals ranged from four hours for part of a system to six months for the entire system. Cleaning schedules varied considerably, depending upon the type of system in use and the location or department it served.

Salvage and Supply. The final questions discussed at the meeting were: How are worn parts salvaged and put back in the supply room for distribution? Who is responsible for deciding what is to be salvaged?

Mill A. The maintenance department has a supply room separate from the mill's general supply room, and all parts salvaged by shop repairs are put back into bins and re-used when needed. The foremen, head overhaulers, and master mechanic work together in determining whether a part can be practically salvaged by repair.

Mill B. Worn parts are carried to supply room before a new part can be issued. It is the duty of the head overhauler to inspect these parts each morning and decide what is to be scrapped and what is to be cleaned and sent to shop for repair before being placed in the supply room. In many cases

J. WILSON PATTERSON (left), superintendent, Tallassee (Ala.) Mills, vice-general chairman, was elected to serve as general chairman for the group. **Ben H. Crawford** (right), Southeastern Engineering Co., West Point, Ga., remains in office as secretary-treasurer of the mill men's organization.

where smaller parts are attached to the original worn part, the smaller parts are removed and placed in supply if found to be in good condition.

Mill C. We have a used parts supply room which is used only for storing salvaged parts and other materials which we have not decided to throw away. The distribution of used parts is similar to new parts distribution, except there is no charge on the salvaged parts issued.

Any part considered worth repairing is carried to the shop for repairs. After repairs are made, part is stored in the used parts supply room and recorded the same as a new part. Repair costs are charged as a general expense item. The general superintendent and maintenance superintendent decide what parts are to be salvaged.

Mill D. We repair all worn parts that are worth fixing. These parts are placed at the front of our shop, and fixers use these parts as they are needed. We have several men who decide what is good enough to salvage. These men are: master mechanic, assistant, shop foreman, department overseers, and fixer who does the replacing.

Mill E. All broken parts are carried to the supply room with a requisition for replacement. Old parts are carried to the shop for repair, and when they are finished, they are returned to the supply room. The department foreman and master mechanic decide on salvage.

Mill F. Each department has a small storage room where used parts are stored for future use. They are not returned to the main supply room for redistribution. The department head is responsible for deciding what parts are to be salvaged.

Story of N. C. State's School of Textiles

The story of how North Carolina State College's School of Textiles has grown from a physical plant consisting of "a roving reel, a yarn reel, a pair of scales, and a set of cotton samples" to the world's largest institution of its kind is told in a new book written by Prof. Thomas R. Hart, director of instruction and member of the faculty since 1919.

Professor Hart's book, 230 pages long, recounts the early struggles of the school, which had its beginning in 1899, and outlines the philosophy of teaching and research which has motivated the school's operations through the years. It contains seven chapters, each devoted to a separate phase of the institution's history and its significance to the nation's textile industry.

A list of all alumni of the college's School of Textiles, grouped together by classes, is presented in the last chapter.

Title of the book is *The School of Textiles, N. C. State College, Its Past and Present.* Copies may be obtained by writing to Prof. Thomas R. Hart, School of Textiles, North Carolina State College, Raleigh, N. C.

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Quality Control of Cotton Fibers

Fiber testing program by mills recommended as one way to narrow price gap between natural and man-made fibers. Operating procedure described.

By R. M. ASHNER

P. O. M. Co., Industrial Consultants
Werner Textile Consultants

EXCLUSIVE

AMONG the changes in the textile industry brought about by the Korean War, the most drastic is in the price structure of textile raw materials. Viscose rayon staple is now offered at a lower price than cotton!

Raw cotton was lower priced up to June 1950 (Fig. 1). But, since then the price of cotton has risen above that of rayon. Although the price of rayon has been raised twice, it is still cheaper than cotton.

The price index shown does not contain any correction for waste. It is important to keep in mind that there is a sizeable amount of waste made in the process of manufacturing cotton goods. In contrast, waste made in the manufacturing of rayon goods is negligible. Therefore, when comparing the price of raw cotton to that of rayon staple, it is necessary to add approximately 10-15% to the price of raw cotton. This fact is well illustrated by Fig. 2 which graphically shows the ever-widening gap between two comparable yarn types; one made of cotton, the other of rayon.

Modern manufacturing procedures are based on reliable standard qualities of raw material which make it possible to maintain standard running conditions in the mill. One of the greatest difficulties encountered in the manufacture of yarn and goods from natural fibers such as cotton is the fact that the quality of the raw material is not made uniform to standard specification by Mother Nature.

There are two ways to decrease the price gap between natural and man-made fibers.

(1) Tackle the problem at the cotton growers' level. It is well-known that tremendous progress has and is being made in this direction through the combined efforts of the cotton growers, the United States Department of Agri-

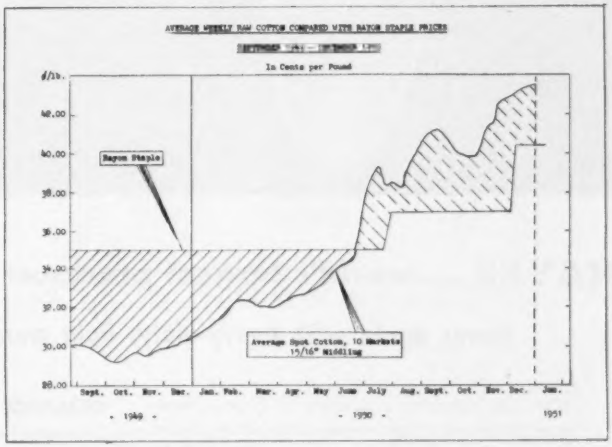
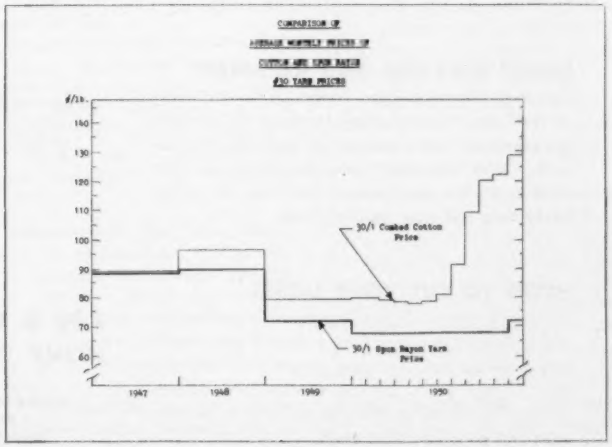
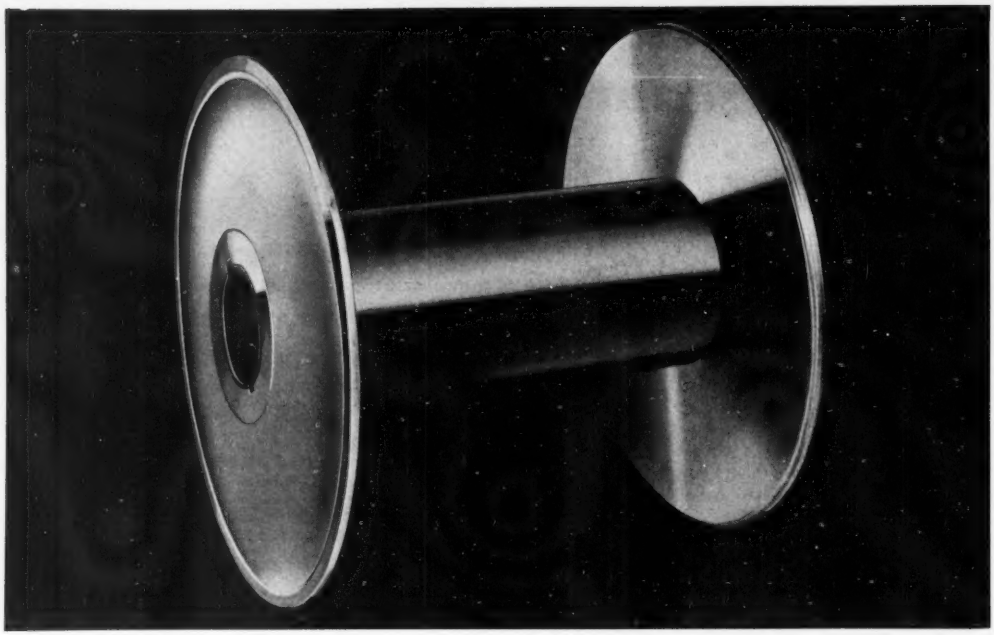


FIG. 1. Average Weekly Raw Cotton Compared with Rayon Staple Prices, September, 1949, through December, 1950 (in cents per pound).

FIG. 2. Comparison of Average Monthly Prices of Cotton and Spun Rayon 30s Yarn, 1947 through 1950.





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culture, and the Association of Cotton Growers and Spinners.

(2) Place more emphasis upon scientific and practical ways and means for testing raw cotton at the time of purchase and before it is processed in the mill.

It has become evident that mill management derives considerable benefit through a higher degree of knowledge of what running conditions can be expected, grade of the end product, and the yarn, cloth, and finished fabric a particular quality of purchased raw cotton will produce. A fiber testing laboratory, properly operated by trained personnel, will offer mill management this valuable knowledge.

More and more mills are recognizing the necessity and advantages of a scientifically run fiber testing program. However, the testing program installed often is not properly operated. Results obtained are sometimes not put to optimum use, and there is a lack of coordination with overall mill controls.

Different methods of fiber testing* are well-known along with the most frequently used fiber testing instruments**. The fact that specially-designed fiber testing machines and instruments are continuously appearing on the market shows the degree and importance scientific fiber testing has attained.

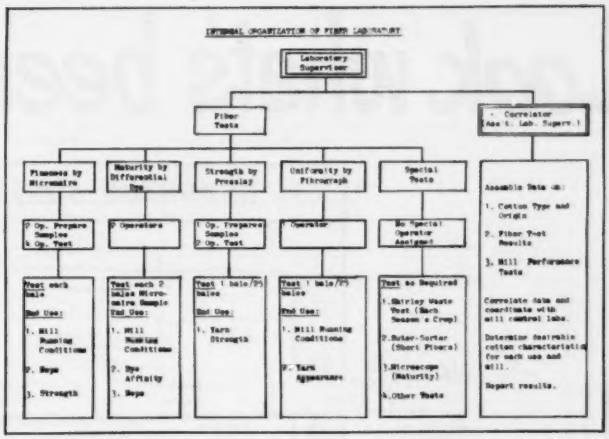
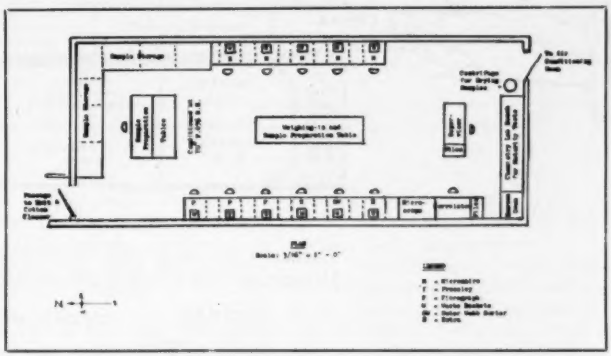


FIG. 3. Internal organization of fiber laboratory for large mill.

FIG. 4. Layout of proposed fiber laboratory for large mills.



Testing Program. A typical fiber testing program and the internal organization of a cotton testing laboratory are shown in Fig. 3. This is the setup for a large mill. However, the basic principles are identical for any kind of mill—large or small. One difference is in the number of operators required. The testing frequency should be similar even in the smallest mill.

As shown in Fig. 3, fineness is determined by Micronaire and a sample is taken from each bale. This sample is tested further for maturity by the Differential Dye Test. One bale out of 25 is checked for strength by Pressley Tester. The frequency of this test, however, depends largely on whether strength is of major importance to the end product of the mill.

These are the main routine tests normally performed by a cotton quality laboratory. In this instance, fiber length uniformity is also checked regularly. Furthermore, special tests such as Shirley Waste Tests are made on a cotton lot basis.

Organization. The most important prerequisite of a cotton control laboratory is proper integration into the mill organization. To achieve the necessary coordination, areas of responsibility for the functions of the laboratory must be assigned.

It is important to note that the new fiber testing methods are not aimed at replacing or excluding the cotton classer—now or in the future. On the contrary, information received from the fiber testing laboratory will strengthen the cotton classers' position.

The cotton classer should:

(a) Become familiar with and be trained in the use of all modern scientific fiber testing equipment and procedures.

(b) Coordinate the fiber testing program with his present work.

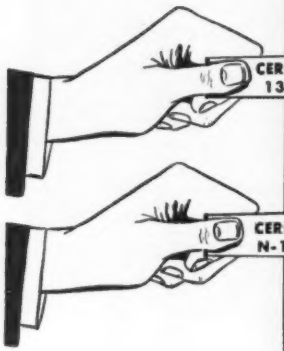
The work of the cotton classer and the results obtained from fiber testing laboratories should supplement each other and be integrated with the aim towards helping both top management and the manufacturing divisions of the mills.

Fiber Testing Lab. Both large and small mills are in a position

*Methods of testing fibers: A.S.T.M. Standards D 414-49T Oct. 1950, pages 250-276.

**Fibrograph, Micronaire, Suter Webb Sorter, Pressley Tester, Microscope, Shirley Analyzer, etc.

Look what's been added!



HOUGHTON SURFACE ACTIVE AGENTS

		CHEMICAL CLASSIFICATION	PROPERTIES AND USES
DETERGENCY & WETTING	CERFAK	Alkyl aromatic sulfonate Anionic—(Flake Type)	Used over full pH range for detergency and/or wetting. Also for compounding cleaning agents.
	CERFAK 1300	Polyoxyethylenealkyl thioether—non-ionic (Liquid)	Concentrated detergent and wetting agent, effective over full pH and temperature range at low concentrations. Okay in hard or soft water.
	CERFAK 1305	Non-ionic thioether (Liquid)	Detergent and wetting agent, having low sudsing property, suitable for continuous boiling and scouring.
COMBINED DETERGENCY & WETTING	CERFAK 453	Blend of anionic and non-ionic agents (Liquid)	[illegible] affect enzymes. Non-staining. [illegible] Rapid wetting speed, excellent rewetting ability, good scouring ability.
	CERFAK N-100	Amine condensate (Liquid)	Combined detergency and wetting action. Use with low per cent of alkaline salt. Good for all types of alkaline scouring.
	CERFAK N-115	Blend of non-ionic agents—(Liquid)	Excellent for scouring and dyeing woolen and worsted yarns and piece goods. Generally applicable as a detergent.
WETTING & REWETTING	SURFAX 1288	Alkylaroyl sulfopropionic ester—(Liquid)	Concentrated wetting [illegible] neutral or mildly alkaline solutions for very fast wetting. Excellent dye bath assistant. An exclusive Houghton research development.
	SURFAX W. O.	Sulfated fatty ester (Liquid)	Combined penetrant, softener, wetting and rewetting agent. Long recognized as a standard of comparison in the textile industry.

Textile mill men are relying more and more on the complete Houghton line for wet processing . . .

CERFAK . . . chosen when detergency is the chief factor, and

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Many mill operators are using the Houghton chart above in choosing surface active agents for specific processing jobs. We will gladly send you one of these charts, along with complete information and prices on the new Cerfak 1305 and N-115. Write or call E. F. Houghton & Co., Philadelphia 33, Pa.

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to profitably use a cotton testing laboratory. Laboratories may vary in size which is reflected in the number of instruments and operators required, otherwise they may be much the same. Fig. 4 shows the layout of a fiber testing laboratory for a large mill. This type of laboratory can be used for fiber research as well as for scientific fiber testing. However, even a small mill with about 10,000 spindles can profitably use a laboratory (see Fig. 5).

The location of the laboratory is important. Experience has indicated that the best place for locating the laboratory is in the cotton warehouse together with or adjacent to the cotton classer's office. This makes close cooperation between the cotton control laboratory and cotton classer easier. Such cooperation is essential for the smooth and successful functioning of a scientific fiber testing program.

Usually, samples to be tested by the cotton control laboratory are taken from the cotton classer's sample after he has established staple and grade. All tests are performed after the cotton classer inspects the samples. Standard atmospheric conditions of 65% relative humidity (±2%) and 70 F (±2%) should be maintained at all times.

The cotton control laboratory can be an important link between cotton buying and manufacturing by performing the following functions:

(a) Careful check of cotton laboratory test results against the running conditions of the mill and the quality of the end product.

(b) Proper correlation of these experiences with cotton purchasing activities.

The laboratory should have at its disposal all information ranging from cotton purchasing data through to cotton testing and processing results, all of which should be collated into a final report.

To successfully compile this report the following steps must be taken:

(1) Data on cotton regarding grade, staple, origin, growth, and climate, taken from the purchasing and shipping papers, should be recorded in the cotton laboratory.

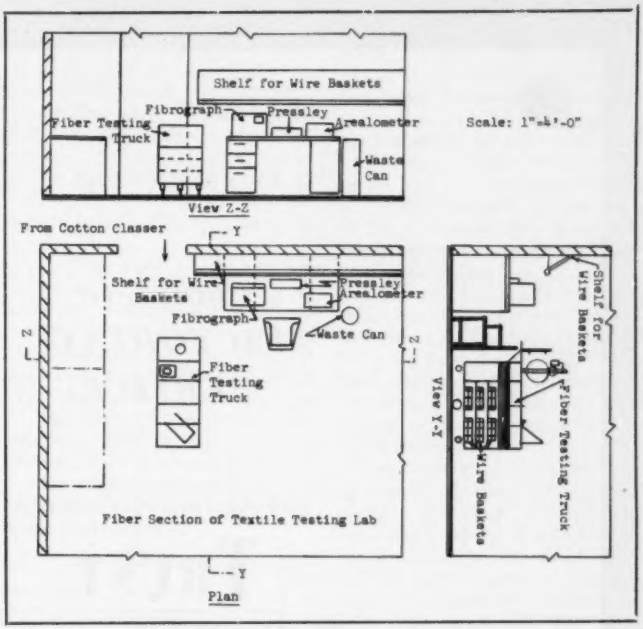

FIG. 5. Suggested layout for small mill lab for fiber testing.

(2) Grade and staple are checked from cotton classer's samples. These samples are then used for fiber tests. Data are recorded on specially designed forms (Fig. 6).

(3) When the cotton is shipped to the mill, the mill's quality control laboratory is notified and instructed to check the lot through the mill. Notes are made regarding running performance and finished goods quality. Carefully designed procedures and forms are used for this purpose.

Identification of samples with a bale number must be made carefully. Samples must keep this identification mark throughout the testing procedure. Tracing cotton along the picking, carding, drawing, roving, and spinning processes may prove to be unworkable unless simple and practical methods are found to achieve desired results.

One good method of identifying cotton is tinting. Another method is the use of a record sheet which makes it possible to follow cotton through the different processes.

(4) In addition to laboratory tests, comments and observations by the mill supervisors, as reported to the mill superintendent, are accumulated and correlated.

(5) The results of the mill tests and the comments of mill supervisors are returned to the cotton control laboratory correlator. He will make an analysis of the results, based on cotton type and origin, fiber test data, mill performance, and quality. From these data standards for cotton characteristics should be established and then given to the superintendent and the cotton buyer who will shape his buying policy to conform with the standards in order to obtain cotton with the best fiber characteristics for each end use. Based on data obtained, the cotton control department will suggest limits by testing which lots of cotton should be used.

For example, for a particular mill and end use, the cotton should have a certain staple, grade, fineness, and maturity. High and low limits will be given within which each cotton characteristic should fall. Emphasis will be placed on developing standards which will permit cost savings in staple and grade as related to su-

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perior fiber characteristics.

To properly coordinate and integrate cotton controls into the mill organization as a whole, the man in charge of the laboratory should be directly responsible to the man in charge of general mill controls such as quality, maintenance, and waste. Through him data obtained in the cotton control laboratory are correlated with data obtained in the mill quality control laboratory.

Installation. The following steps are usually proposed when establishing a fiber control program for a mill:

(1) The fiber control laboratory must be set up in such a manner that all equipment is placed in an air-conditioned room.

(2) Personnel must be selected and trained in the test procedures. The personnel in the mill must be acquainted with the plans, methods, and procedures being followed and with the terminology and interpretation of test results.

(3) Once the control laboratory is physically established, the accumulation of data can begin. This is usually done by selecting special test lots with common characteristics.

(4) The mill quality control lab follows these cottons through and reports on the general processing results.

(5) The mass of information and data thus gathered must be carefully correlated and standards established for grade, staple and characteristics for each mix and end use of cotton. These standards are subject to approval by top management of the mill in cooperation with the mill superintendent and the cotton buyer.

Once these standards have been definitely established, two things should take place.

First, the cotton buyer should endeavor to locate cotton which will, as far as possible, meet the mill's standards. Very often the cotton buyer will have his own fiber testing laboratory in the growing area so that he can pre-examine lots which are offered for sale.

Second, all cotton which comes to the mill should be checked and segregated not only on the basis of the cotton classer's grade and staple report, but also on the basis of the fiber tests described above. In this way only bales with the same degree of maturity will be earmarked for a certain processing lot going through the mill. Therefore, this lot should show the same dye affinity, thus eliminating such defects as warp or filling streaks in the finished product.

The amount of personnel and equipment required for a cotton control laboratory is dependent upon the quantity of cotton processed. However, standard times for the performance of the tests have been established (Fig. 7). It is common practice in large mills to standardize the preparation, performance, and evaluation of each test and the corresponding number of personnel and instruments needed. On the basis of these figures, the cost per pound of a control organization can be calculated and it is surprisingly small—only about 3-5 points—depending on mill conditions. The practical mill man will very readily see that

EVALUATION OF FIBER-MILL TEST — Form AC-93

Mill:	Mark:	Test No.:	Test Run From: To:
Staple In. / Grade:	Shipper Variety	Growth	

Mill Test Performance: Satisfactory ☐ Unsatisfactory ☐ (See comment on back)

Fiber Lab.	Unit	Actual Value	Std.	Very High	High	Average	Fair	Low
Strength	1000 psi		77.5					
Fineness	Mg.		4.4					
Length Uniformity	%		78					
Maturity	%		72					

Mill Test	Unit	Average Test	Average Normal	%	Better 20% +	Better 15% to 19.9	Better 10% to 14.9	Better 5% to 9.9	Average ± 4.9%	Inferior 5% to 9.9	Inferior 10% to 14.9	Inferior 15% to 19.9	Inferior 20% +
Evenness													
Yarn Appearance	Grade												
Card Neps	p.Gr.												
Break													
End Breaks	1000 Spl. Hrs.												

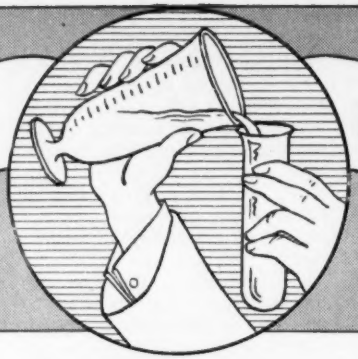
STANDARDS FOR RAYON FIBER TESTING

Fiber Characteristics	Standards for Quality: Excellent	Very High	High	Average	Fair	Low	No. of Tests	Allowable Variations: Between Tests	Between Operators
Strength by Pressley (1000 lbs/square inch)	93 or above	87 to 92	81 to 86	75 to 80	70 to 74	60 or less	3 Tests on 3-6 mg.ea.	.8 lbs./sq.	1 (1000 lbs. /sq.inch)
Fineness by Micronaire (Micrograms/inch)	-	2.9 or less	3.0 to 3.9	4.0 to 4.9	"coarse" 5.0 to 5.9	"Very coarse" 6.0 or above	1 Test on 50 grs.		
Fibrograph Length Uniformity (Index)	-		80 or above	76 to 80	71 to 75	"Irregular" 70 or less	3 Tests on 425 mg.ea.	Mean and Upper Half mean .09	Mean and Upper Half mean .04
Differential Dye Maturity (% Mature Fibers)	-	84 or above	77 to 84	68 to 76	"Immature" 60 to 67	"Very Immature" 59 or less	1 Test on 50 grains	-	-

SAMPLING: Strength - Use Fibrograph Combings (obtained from Length Uniformity Test).
Fineness - 3-8 Pinches from Classer's Sample of Bale.
Length Uniformity - Use Micronaire Sample
Maturity - 50 Grain Micronaire Sample

FIG. 6. Specially designed forms for recording data obtained in fiber tests.

Tested!



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this small investment must pay dividends. The following examples are typical of results achieved and are offered as concrete evidence of benefits derived from cotton controls.

Benefits from Cotton Controls. A mill in Georgia tests each bale received for fineness by Micronaire. Cottons showing readings above 3.2 are further checked for dye index. Similar cotton grades are combined in one mix for processing. This results in more uniform dyeing and also in a very considerable reduction in dyestuff consumption. Average mill costs have been reduced by approximately 2¢ per pound of finished product. Inasmuch as this mill is dyeing some 200,000 pounds per week, the savings assume sizeable proportion.

One group of mills manufacturing materials for the work glove industry, for which abrasion resistance is of the utmost importance, found that they could get better abrasion resistance with coarser cotton. Therefore, they are buying, as much as possible, coarse cotton with a Micronaire reading of four or more in order to offer a superior product to the trade.

A number of mills making sales yarn for the knitting trade wish to grade all their yarn on the basis of differential dye tests, indicating on each shipment what degree of dye affinity to expect from the yarn. Thus, the knitter, by keeping yarn lots of the same dye affinity together, will be able to eliminate the bothersome problem of shaded knitted cloth. By adding this service, the yarn manufacturer expects to improve customer relations.

A number of mills have been able to realize very considerable savings by using off-color cotton. Basically, in any tinged and spotted cotton the off-color is not inherent in the fiber and in many cases shows no effect on the fiber strength. On this principle, these mills test fiber strength and locate off-color cottons for their requirements.

In the light of accumulating evidence it is evident that modern cotton controls have resulted in improved quality of product and lower operating costs. The cotton industry in general and the cotton mills in particular have a comparatively new and efficient tool with which to meet the ever increasing competition of man-made fibers. Although the tool is new, the results already obtained are such that more and more progressive mills will set up their own fiber testing laboratories.

Fiber Testing and Nep Counts

The most recent studies on fiber testing and nep counts have been conducted by the United States Department of Agriculture. In summary the following has been resolved:

A. It has been proven that excessive cleaning, i.e., the action of more than 24 cylinders used in a conventional manner, results in an increase in the number of neps and a lower yarn appearance. All six fiber properties, namely, (1) Grade, (2) Upper Half Mean Length, (3) Uniformity Ratio, (4) Fineness, (5) Maturity, and (6) Strength are related to the number of neps in the card web and all are equally important.

B. Standards have been set up for number of neps in the card web, but these standards were fixed for 100 square inches of the web. The A.S.T.M. Standards (D414-49T, Para. 56) calculate the neppiness as a relative number of neps in one grain of the test specimen. Since card slivers have different sizes (grains/yard), the number of neps/100 sq. inches has been transposed into the more general unit of no. of neps/grain:

No. of neps/100 sq. in. of processed card web based on a standard weight card sliver of 40 grains/yard from a 40" card	No. of neps/grain of processed card web.	Standard Ratio
0 - 15	1 - 4	Low
16 - 25	5 - 7	Average
26 - 40	8 - 11	High
Above 40	Above 12	Very high

C. These standards are not to be taken as rigid guides as the objectives of the particular mills must be considered.

D. Other factors which influence the number of neps related to the other fiber properties are the size of the card sliver, the speed and the production per hour.

TESTING PROGRAM FOR REQUIREMENTS

Test	Mins. per Test			Tests per Sample	No. of Bales		Mins. per Week				Requirements/ 40 Hr. Wk. = 2400 Mins/Week	
	Prepare Sample	Perform Test	Evaluate Result		Per Test	Per Week	Prepare Sample	Perform Test	Analyze Result	Total	Personnel	Testing Equipment
Micronaire	1.0	2.0	Neg.	1	1	1,500	1,500	1,000	-	1,500	(.63) 1	(.40) 1*
Pressley	1.5	2.5	1.0	6	10	50	450	750	300	1,500	(.63) 1	(.31) 1
Fibrograph	2.0	3.0	3.0	2	10	50	200	300	300	800	(.33) 1	(.16) 1
Differential Dye	Neg.	2.0	1.0	1	1	500	-	1,000	500	1,500	(.63) 1	(.42) 1
TOTAL							1,150	3,050	1,100	5,300	(2.20) 4	

* NOTE: Testing equipment is estimated from the mins. required to perform the test, excluding time to prepare sample and evaluate results (to be done by other personnel than the operator using the testing device). (E.g. 1000/2400 = .42)

FIG. 7. Standard times for the performance of tests have been established as shown here.

HOW OTHER MEN
Manage
• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Shorts Cuts • Comments from Readers •

Function of Card Doffer Cylinder

Question Briefed: *I should like to learn what some practical carders and mill superintendents have to say about the card doffer cylinder. What function does the doffer cylinder have in the carding operation?* (CONTRIBUTOR No. 8357, *March* 1951).

EDITOR TEXTILE INDUSTRIES:

The physical and mechanical forces which operate during the carding operation are not fully evident. Cards in operation must be enclosed, and to some extent we try to guess what takes place inside the machine. Conclusions are drawn from known principles because it is not practical to look into a card to see how the operation is performed in detail.

Practical experience with the card and the laws of physics and mechanics permit the following tentative conclusions:

(1) The function of the doffer is to carry away from the cylinder the fibers which are deposited on its surface.

(2) The fibers are deposited on the doffer by the cylinder.

(3) The doffer is a passive agent in the transfer of the fibers from the cylinder to the doffer.

(4) The name doffer is a misnomer in that the cylinder doffs itself, much in the same way that a grinding stone throws off (doffs) sparks.

(5) The only place where the cylinder can relieve itself of its load of fibers is in the zone where the doffer operates.

(6) All of the other parts of the cylinder are enclosed. The grids, plates, and flats are set to keep the fibers close to the cylinder.

The doffer is approximately 26 inches in diameter with about 550 teeth per square inch—about 50 teeth per square inch more than the cylinder. Axially the doffer rotates in the opposite direction to the cylinder. There is, however, deception in the latter statement because circumferentially the cylinder and the doffer travel in the same direction—namely, downward, but at different speeds at the point of transfer of the cotton.

Suppose we stand beside a card where we may observe the cylinder rotating clockwise and also that the doffer turns counterclockwise. If we mark the direction of motion of the cylinder on the bend by means of an arrow and the direction of the doffer at or near the

Winner of the Kink Contest

ending at midnight on July 15, 1951, was THOMAS COLLETT of Waterloo, Ontario, Canada. Mr. Collett sent in a clever method for putting up ends on spinning frames after scouring or breakdown. It will appear in an early issue of TEXTILE INDUSTRIES.

For his winning entry in this contest Mr. Collett received regular space rate payment plus the $100 award.

ANOTHER CONTEST begins with the publication of this issue. ONE HUNDRED DOLLARS will be awarded for the most helpful short cut, kink, time-saving device, cost cutting suggestion, or quality improvement idea submitted by November 15.

Contributions eligible for the prize must not have appeared elsewhere and must not be sent to any other publication. All material will be paid for at regular space rates, upon acceptance, irrespective of the contest winner.

All entries must be postmarked not later than midnight, November 15, 1951. Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta 5, Georgia.

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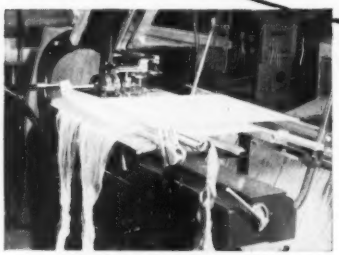
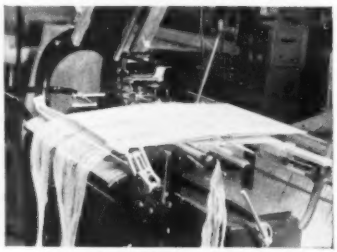


Model "LL" machine set up for tying in a plain cotton warp.



The same machine as above, now set up for a leased cotton warp.

A Barber-Colman PORTABLE Warp Tying Machine can be a *very profitable* investment for you. This machine offers a fast and accurate means for tying-in new warp *at the loom.* It can be handled in confined and hard-to-reach places and in loom alleys as narrow as 12". Overall production capacity averages 3500 to 4500 ends per hour, higher on high sley warps. Models are available to handle cotton, wool, worsted, silk, or synthetics (including monofilaments) and plain warps or leased warps or both. Tying is accurate and uniform and so much more efficient than common hand methods that the machine will pay for itself quickly in cost savings *even when not in constant use.*

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point of transfer also by an arrow, we would notice that the two arrows point in the same direction. If, however, the doffer were turning axially the arrow showing the direction of rotation of the doffer at the point of transfer would point upward. Thus we would have both cylinder and doffer turning axially in the same direction, and at the point of transfer they would be turning circumferentially in opposite directions.

Another point to notice is the fact that the fillet is nailed onto the cylinder in the same way that the fillet on the doffer is fastened. However, at the point of transfer the angles of the teeth are opposite. The teeth of the doffer are sharper than those of the cylinder, there are more of them, and they are always unloaded at the point of transfer. The doffer speed is about 70 feet per minute, and the cylinder moves at approximately 2000 feet per minute.

The mechanical factors may be set forth as follows: At the transfer point both cylinder and doffer move in the same direction—downward. The ratio of circumferential speed is about 30 to 1. The angle of the teeth on the doffer is opposite to the angle of the teeth on the cylinder at the transfer point. The doffer has more teeth per square inch than the cylinder. The teeth on the doffer are usually the sharpest of the two sets. The doffer is relatively free of fibers at the transfer point.

The foregoing six factors are the tangible mechanical elements in function of the doffer. Alone or in combination they do not accomplish the doffing operation. There are other less tangible forces at work.

Few mill men bother to get under a doffer to watch the transfer of the fibers from the cylinder. I have done this more than once. Some of the precautions necessary are goggles, respirator, flash lamp, an intelligent assistant, and a code of tap signals on the card side. The assistant should thoroughly understand the tap signal to start and stop the card. This is one way—a crude one—of watching the doffing operation.

Doffing may be explained as follows: The main agent for transferring the fibers from the cylinder to the doffer is the high speed of the cylinder—about 2000 feet per minute. This speed sets up a strong centrifugal force and a correspondingly strong air current, and both tend to throw off the fibers. The fibers are kept close to the periphery of the cylinder by the flats and plates.

Doffing actually begins when the fibers have passed over the top edge of the strip plate (percentage plate). The three front plates are set gradually wider from top to bottom. The angular space between the cylinder and the plates permits the trailing ends of the fibers to stand out from the teeth which hold them in a line tangential to the curve of the cylinder. If the plates were removed, the fibers would fly outward into space.

The front plates keep the fibers within the range of the teeth on the cylinder until the lower edge of the bottom plate is reached. At this point all mechanical restraint on the disposition of the fibers ceases. Consequently they are free to fly outward and downward. Actually they are thrown within the limited space bounded by the edge of the doffer cover and the lower edge of the lower front plate.

The teeth on the doffer, as they emerge from the edge of the doffer cover, are at a convenient angle for the reception and retention of the fibers which are leaving the cylinder and falling on the doffer. The upper part of the doffer, moving nearer to the cylinder, carries the fibers once more within the range of the teeth on the cylinder. As the distance between the arcs of the two circles diminishes, a gradual and effective combing action takes place. The doffer holds the fibers while the cylinder does the combing.

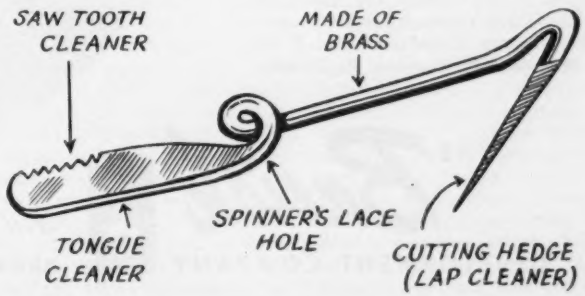
The combing action is incidental to the transfer of the fibers from the cylinder to the doffer. Fibers are placed on the doffer in the top half of the zone in which the doffer operates—from minus 175 degrees to 180 degrees. At 180 degrees the two circles are at their closest proximity—the setting point. From

Multi-Purpose Spinner's Hook

EDITOR TEXTILE INDUSTRIES:

A spinner's hook may be made from brass wire or any material soft enough to prevent scarred steel rolls. The one shown in the accompanying sketch serves many purposes, and I have used one with excellent results. The sketch is self explanatory.

The cutting hedge hook serves to take off laps around steel rolls. The saw tooth cleaner is helpful in cleaning roller necks for both top and bottom drafting rolls. The tongue cleaner saves time in pulling out aprons between bottom middle roll and apron bar; it is also useful in cleaning the roving condenser area. CONTRIBUTOR No. 8392



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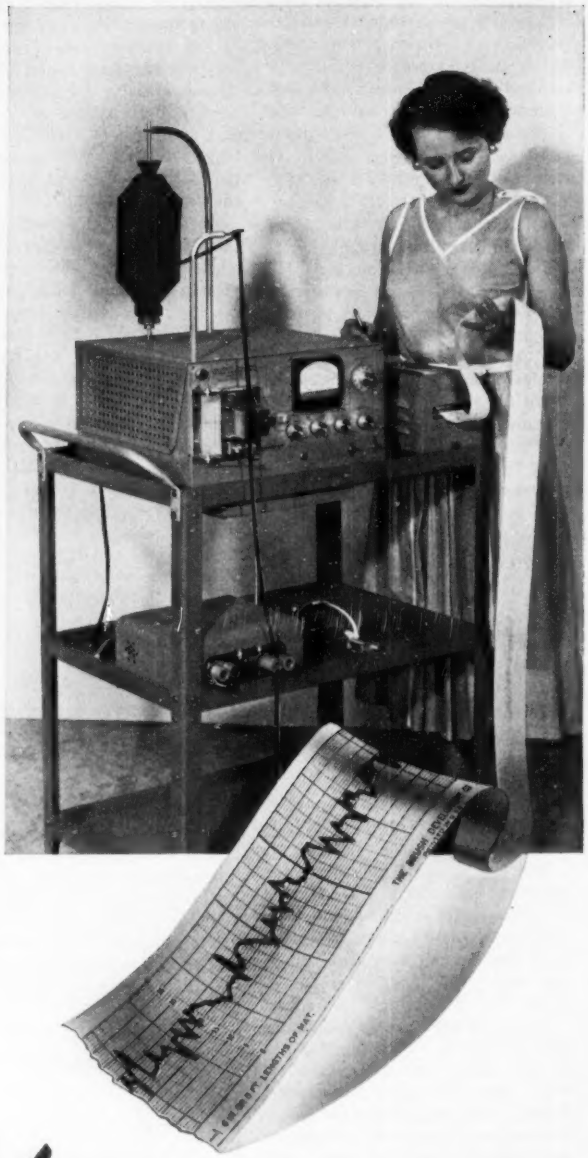
you get a quick answer with a Brush Analyzer



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Irregularities in weight per unit length are automatically put in writing, on record graphs which you can keep for future reference. With them, you can make accurate comparisons between yarns spun from different stock or spun by different methods. Guesswork is eliminated.

There's troubleshooting help here also. To an experienced operator the graphs point to the cause of non-uniformity, whether in the sliver, roving, or spinning stage. Added information is given on a meter, which indicates average wool or cotton count.

The Analyzer is calibrated for cotton or wool, as specified, and can be adapted for other materials, including Nylon, rayon, other plastics. The separate heads for yarn, roving and sliver can be interchanged easily. The unit is complete, includes measuring head, amplifier, oscillograph, yarn drive, handling fixtures.

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this point the two circles swerve away from each other and also from the transfer zone.

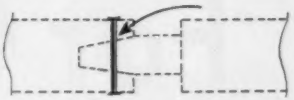
From 180 degrees to plus 175 degrees the fibers which have been snatched from the doffer by the cylinder at the setting point are again thrown onto the teeth of the doffer by the centrifugal force and the air current set up by the rotation of the cylinder. The doffer enters the transfer zone at about minus 175 degrees and makes its exit at about plus 175 degrees.

During the time the doffer is in the transfer zone (passing through or around the arc of a circle of 10 degrees from minus 175 degrees to plus 175 degrees) the angle of the teeth on the doffer has changed for every one of the 10-degree increments in the arc circumscribing the transfer zone. The figures relating to the degrees are estimated —probably underestimated. The figures depend to a great extent upon the construction of the card, particularly on the cutting and setting of the front plates.

It should be noted that the fibers on the doffer ride on the points of the teeth. This is due to the fact that they are placed there by aspiration—they are blown onto the doffer. A very weak current of air may blow them off again. The last factor to be mentioned is of importance: The doffer turns at a circumferential speed of about 70 feet per minute; therefore it does not generate an opposing air current which would resist, check, and obstruct the one-way flow of the fibers from the cylinder to the doffer.

CONTRIBUTOR No. 8390

Repair for Damaged Key Ways On Mule Delivery Rolls



A quick, easy, and permanent way to fix delivery rolls on mules, when the key way has become enlarged and there is a lot of play where the rolls join together, is to drill a 3/16" hole through the rolls. Then drive a pin all the way through and peen the ends slightly—just enough to keep pin from sliding out. If the rolls ever have to be taken out, simply file the peened area off one end of the pin, and then drive the pin out. Hole may be countersunk for permanent joint.

This method saves time in making and fitting keys and it keeps rolls aligned also. If a key is made large enough to hold the rolls together, the larger and wider key required to hold the rolls together tightly will tend to push them out of alignment. This method may be used to repair delivery rolls on frames where the threaded ends break off.

Remedies for Uneven Picker Laps

Question Briefed: *We have two Whitin one-process pickers equipped with Buckley openers at the breaker section, one three-blade beater at the intermediate section, and one carding beater at the finisher section. Each picker has three fans which operate at 1300 rpm. Our picker laps are uneven, although the machines are apparently in good working order. Our picker laps weigh 14 ounces per yard and do not vary more than ¾-ounce per yard.* (CONTRIBUTOR No. 8317, *March, 1951*).

EDITOR TEXTILE INDUSTRIES:

I would like to offer a reply to CONTRIBUTOR No. 8317 regarding uneven picker laps.

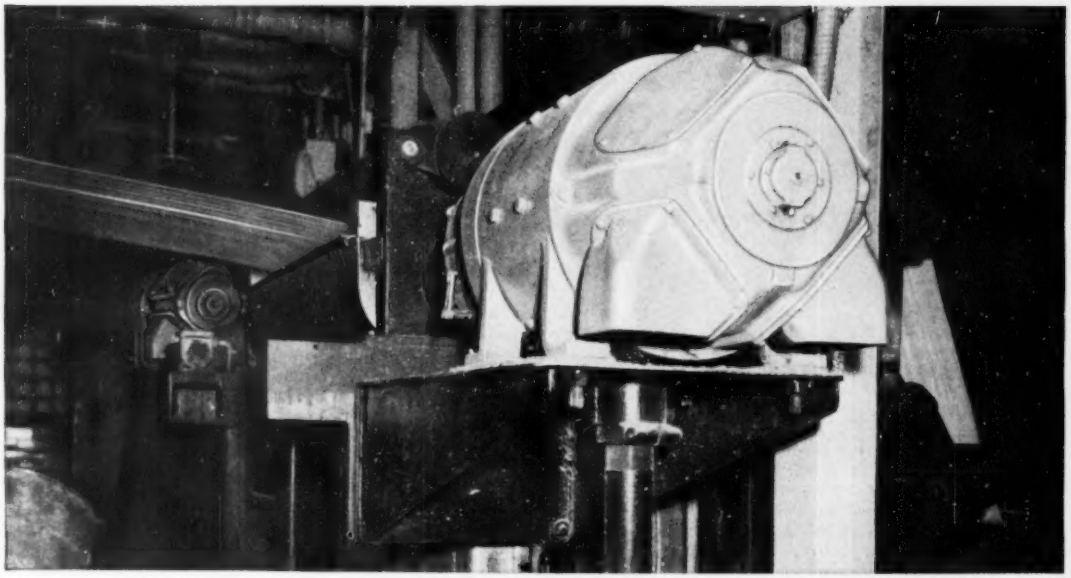
Uneven distribution in the lap is due to unstable cotton weight and volume conditions, regardless of machine make. Provided the machine is in good mechanical condition, which is evident by the yard-per-yard variation given, successful operation may be obtained by providing air inlets on the delivery side of each cage or screen (preferably the top cage). The openings should be approximately the same sectional area as the opening in the machine at the stripping rail following each breaker—usually four or five inches deep and as wide as the machine.

The air inlets will allow each fan, regardless of speed, to obtain air from the atmosphere over and above the volume delivered by each beating point. The air inlets should be made adjustable. I suggest employing less air and using less horsepower per pound of fiber worked, and thereby practically remove the possibility of fiber damage.

My suggestion may be executed as follows: Each type of beater in the picker will discharge different volumes of air at the same peripheral speed. It is important that the cotton should condense on each cage or screen in a uniform manner and at a standard pressure. The speed of the fans should be alike for a given cage or screen, and beaters should operate at a known relative speed. A suitable beater speed lies between 3000 and 4000 feet per minute peripheral speed.

SPRINGS COTTON MILLS DEPENDS ON CO-ORDINATED G-E RANGE DRIVES

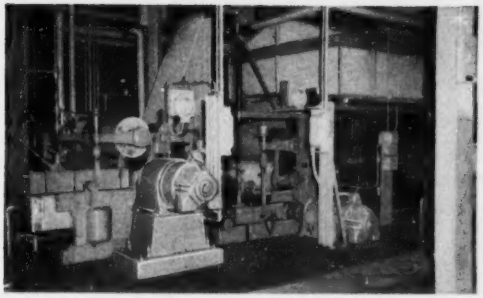
For Continuous High-Speed Finishing!



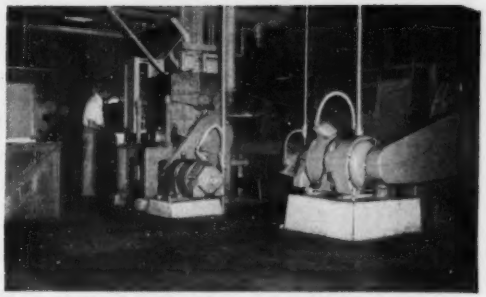
Singeing and De-Sizing Range at this bleachery comprises two 50-inch units driven by 15-hp G-E gear-motors (shown above) and a 110-inch unit driven by a 25-hp G-E motor. G-E motors also drive four pilers and three folders. Selection, manufacture, and delivery of all G-E equipment for this modern, high-output mill was co-ordinated by General Electric.

GENERAL ELECTRIC

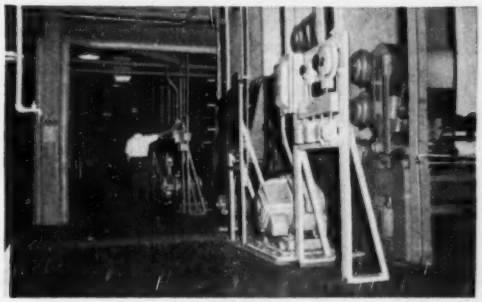
654-19



Mercerizing Range, (above) includes a 50-inch 2-roll water mangle and a 50-inch 15-ton 3-roll caustic padder powered by G-E gear-motors rated 20 and 25 hp. Other G-E motors run scutcher, tenter frame, washer and piler. By making it an all G-E plant, Springs Cotton Mills simplified ordering, saved time and effort otherwise required by piecemeal purchasing.



Rope Bleaching Range, one of three at Grace Bleachery, uses G-E motors throughout. Photo shows the tight rope hot washer and the tight rope squeezer connected to G-E 25-hp and 20-hp gear-motors. All G-E motors used in this plant were co-ordinated by G-E application engineers to assure an efficient smooth-working installation.



Finishing Range is one of six at this Springs Cotton Mills plant equipped with G-E motors throughout. Shown here are the scutcher, 3-roll water mangle, 10-can dryer, 2-roll starch mangle, 20-can dryer and 90-foot enclosed tenter frame. When the mill was completed at end of 1948, start-up time was minimized by G-E field-service engineers who checked initial operation.

Continuous Dyeing Range, with individual Williams units driven by G-E 7½-hp gear-motors, provides a range of cloth speeds from 37½ yards to 150 yards per minute, as well as threading speeds of 10 to 15 yards per minute. Like hundreds of other companies, Springs Cotton Mills finds it pays off to place full responsibility for electric equipment needs on General Electric.

Over 300 G-E motors in Grace Bleachery, South Carolina, help process 6 million yards of grey goods per week!

Quickly summarized, here are some advantages General Electric range drives can offer you—advantages that add up to efficient range operation, continuous high-speed finishing:

You get any desired speed range and jogging speed, easy control of overall speed from a central point, and close speed co-ordination for all motors by means of compensating gates or "soft" motors. Flexibility of operation is assured, with individual units easily disconnected from the range. If required, you can have dynamic braking for quick stopping and regenerative braking for controlled deceleration. And you can count on top reliability and low maintenance, with a simple, sturdy G-E gear-motor at each drive unit.

Here's more! G-E range drives are now also available in packaged form to give you the additional advantages of lower installed cost, simplified installation, and new ease of making changes in your plant layout.

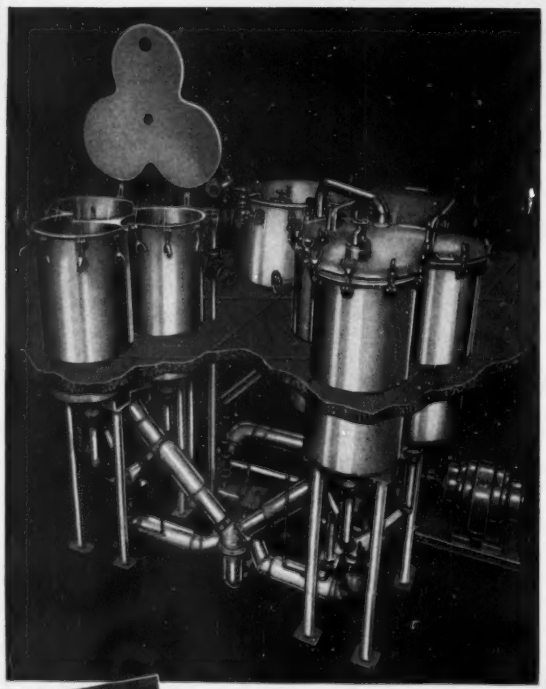
Take a tip from Springs Cotton Mills. Save yourself time and trouble in modernizing or expanding any mill process by letting General Electric co-ordinate all your electric equipment needs. Ask your G-E textile-mill specialist to tell you the whole story on G-E range drives, as well as drives for any other textile-mill application. *General Electric Co., Schenectady 5, N.Y.*

RANGE DRIVES FOR TEXTILE MILLS

Before you modernize or expand your textile mill, see "Textiles Unlimited," General Electric's "More Power to America" full-color sound movie. A helpful, half-hour film, it shows how other textile mills are modernizing with profit, will give you at least 40 specific ideas on improving quality and cutting costs. Ask your G-E representative to arrange a showing.

Now... as many as 6 Beams or Yarn Carriers

Can be Dyed at the Same Time in the Same Dye Bath!



Uniform dyeing of yarn on beams or in packages can be attained only when each and every beam or package carrier of yarn is dyed simultaneously under identical conditions. And identical conditions can be assured only in the same dye bath. The SMITH-DRUM Combination Beam and Package Dyeing Machine was the first to make this possible and practical . . . by providing two-kier and three-kier machines . . . designed so that up to the full capacity of the machine, all the beams or yarn carriers are subjected to the same dye bath and the same dyeing conditions of pressure and temperature, all at the same time. Then, a few years later, the same principle was employed in a four-kier machine.

Now . . . a *six-kier* machine is available, which permits dyeing not only two, three or four but up to *six* beams or yarn carriers at *one time* . . . in the *same* dye bath . . . with the *same* liquor ratio . . . under the *same* operating conditions of flow, pressure and temperature . . . and with uniform distribution of additions to the dye bath. Arrange for one of our representatives to discuss these important features with you . . . a letter, 'phone call or wire will receive our prompt attention.

Write for Catalog No. PBD-801 TODAY!

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Allegheny Avenue at 5th Street

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CONTRIBUTOR No. 8317 did not state the speeds employed—they should be 450 to 500 rpm for a 36-inch Buckley cylinder; 850 to 900 rpm for the 18-inch three-blade beater; and 750 to 800 rpm for the 18-inch Kirschner or carding beater.

Fans operating at 1300 rpm will discharge approximately 850 cubic feet of air per minute. Upon allocating 50 cubic feet of air for each pound of fiber worked, 17 pounds per minute can be handled by the machine in a stable manner at each screen with the beater speeds suggested.

By adjusting the suggested air inlets on the delivery side of the cages, the air volume to fiber weight ratio can be adjusted quickly and effectively.

Trouble will occur when the volume of air per pound of fiber rises above 80 cubic feet and when the air speed from the beaters exceeds 4000 feet per minute.

The blows-per-inch may be controversial, but this can be safely ignored in that the standard of measurement is often troublesome in picker operation. The important consideration is: blows-per-pound of fiber; and these should be equally allocated to each point, between the bale and lap at the card licker-in, consistent with beater speed and air volume.

CONTRIBUTOR No. 8391

Comments on Drawing Rolls

Subject Briefed: *Comments are desired regarding the relative quality of yarn made from sliver delivered on drawing frames equipped with rolls covered with a synthetic material as compared with frames equipped with metallic rolls.* (CONTRIBUTOR No. 8071, *May*, 1948).

EDITOR TEXTILE INDUSTRIES:

In the November (1950) issue of TEXTILE INDUSTRIES, in the "How Other Men Manage" section, CONTRIBUTOR No. 8255 discussed the relative merits of synthetic vs. metallic rolls on drawing frames, the original question having been raised by CONTRIBUTOR No. 8071, in the May (1948) issue of the magazine. His experience indicated that the metallic rolls were superior in every way.

We have a number of Saco-Lowell, four-delivery, drawing frames, all but three of which are

Rubber Coated Spinning Tapes Reduce Slippage

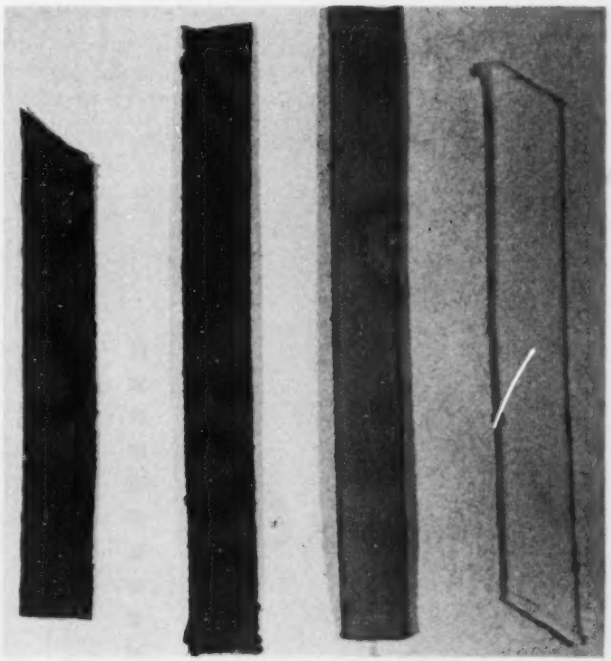
EDITOR TEXTILE INDUSTRIES:

It is a known fact that spinning and twisting frame spindles lose speed because of tape slippage.

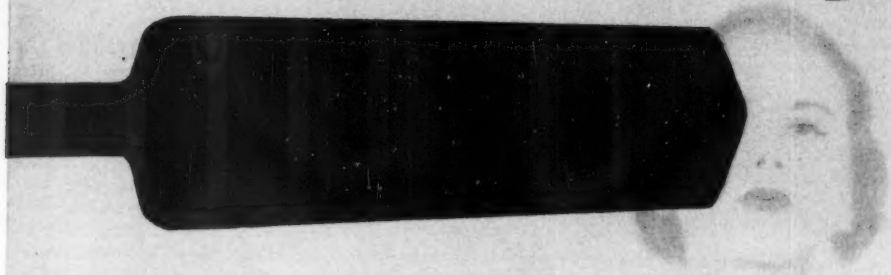
Tape dipped in rubber lasts longer and practically eliminates all slippage. Rubber coated tapes should be of benefit to a greater extent because of the heavy spindles and spools used on twister frames.

The tape with rubber coating (see accompanying illustration) has been running in our mill and producing impressive results. Perhaps other mill men would like to try rubber coated spinning tapes or twister tapes. Tape pictured at extreme right has not been rubber coated.

CONTRIBUTOR No. 8393
[Portugal]



*ARIPERM pm®



Your reputation won't fade... if your acetate fabrics don't!

***ARIPERM PM® Prevents Gas Fading**

When colors fade, so does consumer confidence in the manufacturer's label; this "backs up", eventually, to the dyehouse. There's no need for this with fabrics (partially or wholly) of ACETATE RAYON, for *they can be given protection against fading from atmospheric gases. ARIPERM P M does the job.* Its durability means exceptional protection through washing and dry cleaning.

ARIPERM P M is especially valuable for dyeing Light Shades, Pastels and Tints, since it does not throw the shade over to the yellow. Application is simple, in scouring or directly in the dyebath. Write for details, sample, demonstration.

Arkansas Co. INC.

MANUFACTURERS OF INDUSTRIAL CHEMICALS FOR OVER 45 YEARS
NEWARK, NEW JERSEY

Arkansas Co., Inc.
184 Foundry St.
Newark, N. J.

Gentlemen:
I would like to have, without obligation:

- ☐ full details of ARIPERM P M benefits
- ☐ sample and application procedure
- ☐ demonstration in plant

NAME _____ TITLE _____

FIRM NAME _____

ADDRESS _____

CITY _____ STATE _____

3-8-1

equipped with the metallic drawing rolls. Frames No. 1, 2, and 3 are equipped with synthetic rolls.

We make daily tests for linear regularity on our drawing frames, checking 20 yards of sliver from each of six deliveries each day. We test the sliver from two deliveries from each of three frames each day, checking every other delivery so that one delivery from each calender roll is tested. This test is made on the Saco-Lowell graphic sliver tester. For evaluating this test we use the method recommended by Saco-Lowell for calculating the percentage of variation. For convenience, we use whole numbers instead of thousandths, as follows:

Gauge or thickness of sliver at start of test—47

Average variation (maximum) in 20 yards—13.7

$$\frac{13.7 \times 100}{47} = 29.1\ \%\ \text{variation}$$

We now wish to give some actual results which represent three complete rounds of tests on frames No. 1, 2, and 3, equipped with synthetic drawing rolls, and frames No. 4, 5 and 6, equipped with metallic drawing rolls. We have compression springs on all the cards supplying these drawing frames and we have high compression rolls on each of the drawing frames. In all respects the frames are just alike, except for the drawing rolls. The results are as follows:

Frame No. 1	24.6 % Variation
Frame No. 2	23.4 % Variation
Frame No. 3	25.7 % Variation
Average	24.6 % Variation
Frame No. 4	30.7 % Variation
Frame No. 5	33.3 % Variation
Frame No. 6	32.2 % Variation
Average	32.1 % Variation

Frankly we have not run any spinning tests on the sliver from these frames, although we will probably do so later on. However, all other things being equal, it would seem that we could expect to get a more even yarn from the stock from the frames equipped with the synthetic rolls.

CONTRIBUTOR No. 8255 did not state whether he had made similar linear regularity tests on his sliver, although he did state that he had made tests on both carded and combed stock, using both kinds of rolls, without specifying just what kind of tests were made. Perhaps he would like to elaborate on this a little and give us more details, at the same time giving his reaction to our results.

CONTRIBUTOR No. 8367

Array Shows Fiber Length and Distribution in Wool Tops

EDITOR TEXTILE INDUSTRIES:

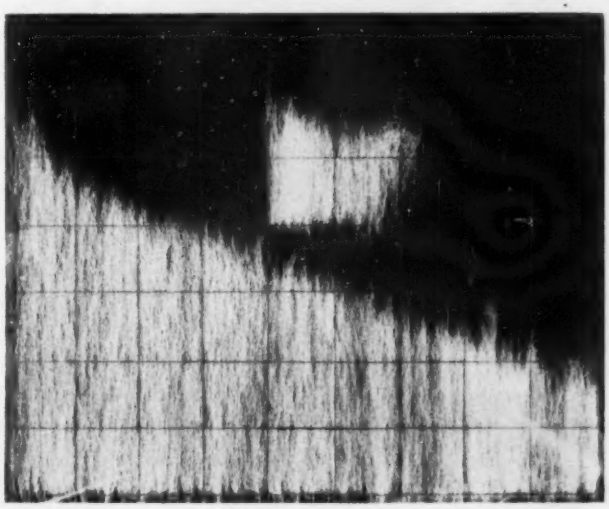
A mounted fiber distribution array may be used effectively in determining the suitability of a lot of wool tops with regard to fiber length and distribution. A form may be attached to the back of the array to show the vendor, lot number, quality, percentage of oil, moisture content, and other details available for a given lot.

A fiber array is usually prepared from samples prior to purchase so that the quality of the lot offered may be judged. The data should be rechecked, upon receipt of the shipment, to verify that the lot is identical to the sample.

The only equipment needed to prepare the array (as shown in the accompanying photo) is a mounting board with black cashmerette background (8¼" x 10½" dimensions) and a spool of dark thread. It is necessary to have the vendor's sample on lots offered for sale, and random top may be selected from shipments actually received.

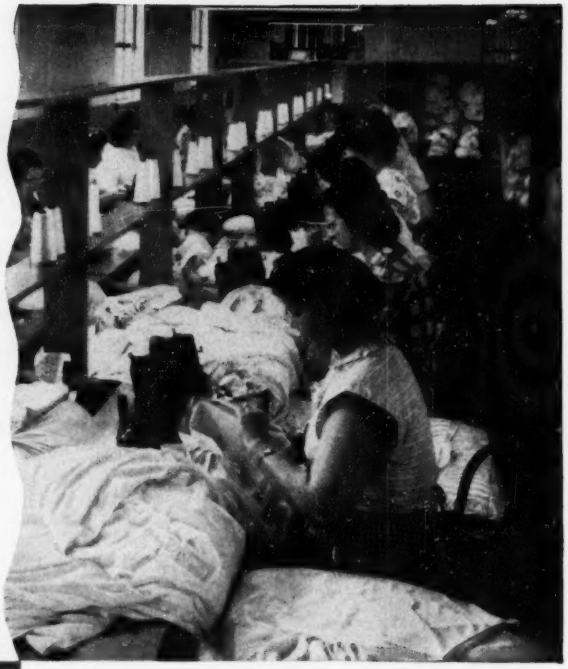
The method employed in this instance is to prepare a fiber bundle, consisting of 25 pulls each of ⅛" pinch. The fibers should be laid parallel and even at the short fiber end of the bundle. From the long-fiber end of the bundle, uniform layers of fibers are mounted upon the board. First the longer and later the shorter fibers will appear as progress is made. The fibers will form a pattern, similar to the one shown in the illustrated sample, showing length and density of different fiber groups.

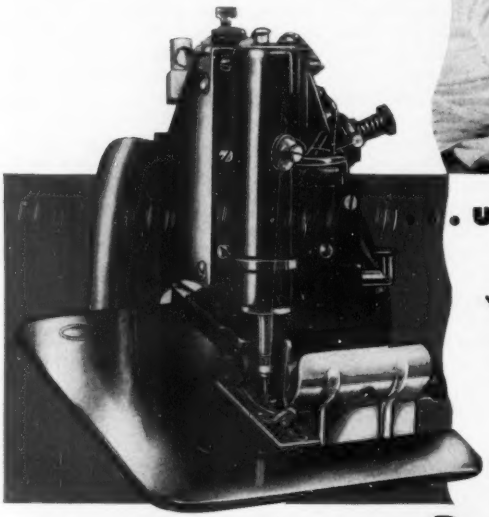
CONTRIBUTOR No. 8394



for finest

OVERSEAMING on knit goods . . .





. use the

thirty-nine-two

■ When it comes to quality of work produced, you can't beat Union Special's new, improved *Class 39200* machines for all kinds of overseaming, overedging, hemming, and welting on knit goods. These machines produce the highly refined *"PURL-RITE"* finish in which the stitch formation is controlled with utmost precision. This improved stitch is produced with no sacrifice in machine speed or output. Seam perfection is maintained over varying thicknesses, around curves. *For the complete story, see our nearest representative or write.*

"Purl-Rite"

Union Special® MACHINE COMPANY

World's Largest Exclusive Builder of Industrial Sewing Machines

407 NORTH FRANKLIN STREET • CHICAGO 10, ILLINOIS

Non-Melting Grease

(Continued from page 83)

it is described by the maker as a synthetic grease that does not melt, even under the highest temperature conditions where lubrication is required; contains no metallic soaps, fatty acids, filler, water, or alkali; completely stable under all conditions of service and storage. Samples available upon receipt of request on company letterhead.

Specialty Products Co., 190 Warren St., Jersey City 2, N. J. (H-502).

Portable Steam Iron and Generator

Dry steam, controlled heat, and controlled pressure are features of a portable steam iron and generator. The equipment includes a white metal superheater and may be used on fabrics from tricot to linen. Models in a-c or d-c; 110 or 220 volts. Called Sure-Dry, the irons weigh from 6 to 15 pounds, depending upon the model and operation to be performed.

David Maimin & Co., 633 Arch St., Philadelphia, Pa. (H-503).

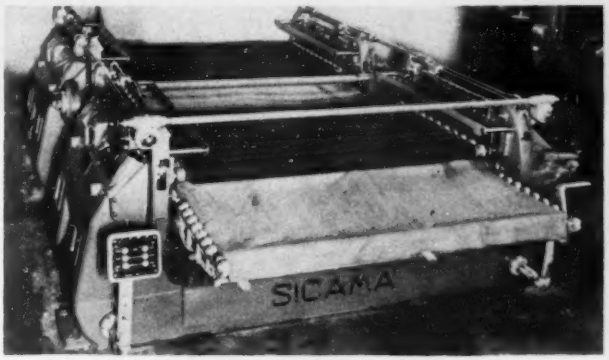
Infra-Red Drying Oven

Now on the market is an automatic drying oven for flash-drying on high-speed web presses. It delivers heat from reflector-type heating units whose surface temperatures are 1400 F. Oven heat is said to be adjustable within a 350-degree differential. Thermostatic control automatically maintains desired temperatures to within a few degrees.

Danger of scorching or weakening the web is completely eliminated, the manufacturer claims, because the oven's design provides for automatically moving the heating units away from the web and opening the vent doors when the press is stopped. This permits immediate heat escape from the oven. Accumulated fumes

NEW Equipment AND MATERIALS

Other items are described on pages 81 and 83

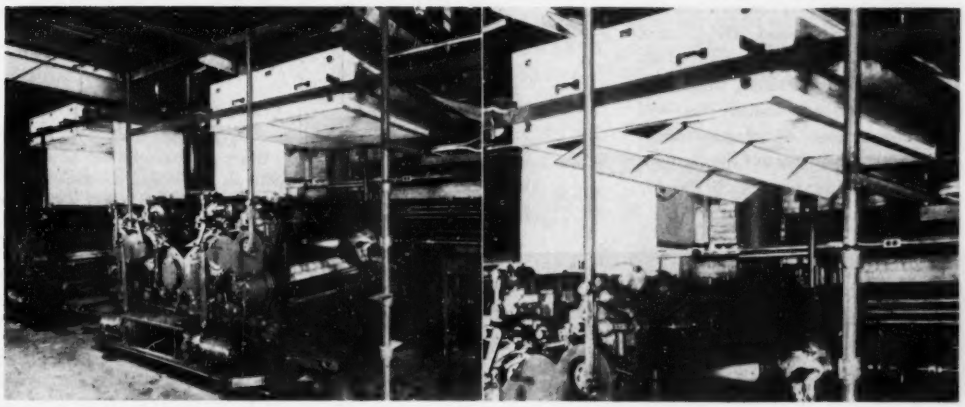


Multi-Roll Felt Shrinking Machine

The Felters Company of Boston has announced the installation of this new multi-roll shrinking machine with which, states the company, it is "developing an entirely new theory and process" for the making of felt.

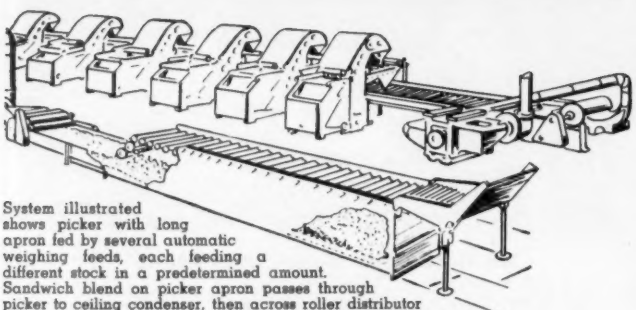
Fabricated in Italy, the machine is the result of progressive studies by German, Italian, French, and American machine makers going back to the turn of the century.

Infra-red drying oven (Herbert) mounted over high speed press. Left, machine running; right, machine stopped. Note in photo at right that vents are open to prevent fabric from burning.



ACCURATE AUTOMATIC BLENDING
ARRANGED TO MEET *Any* MILL NEEDS

OVER 20 YEARS OF DESIGNING
AUTOMATIC SYSTEMS and more than 50 INSTALLATIONS
PROVE PROCTOR SUPERIORITY



System illustrated shows picker with long apron fed by several automatic weighing feeds, each feeding a different stock in a predetermined amount. Sandwich blend on picker apron passes through picker to ceiling condenser, then across roller distributor into reblending box, from which it is carried forward, broken down by receding pin rolls and fed to a second picker, before passing to card room.

Proctor engineers, pioneers in the development of automatic blending equipment, are prepared to design a system to meet the specific needs of your mill. It may be semi or entirely automatic, depending upon your requirements. In either case it will be *accurate* and thorough. Fibers will be well mixed, the mix will be properly proportioned and the proportion will remain constant throughout the run, so that the last yarn made from the mix will be identical with the first. In one installation employing several weighing feeders, each set to feed predetermined proportions of stock, the mill management is extremely watchful. Only twice within a year has the variance in the blend exceeded 2% . . . and then the blend has been re-run. It's no wonder Proctor engineers are able to accomplish this—all of the major developments in blending equipment began on their drawing boards. Write for detailed bulletins.

OTHER EQUIPMENT FOR DEFENSE CONTRACTS

Proctor engineers are keeping in close touch with government requirements and specifications on all lines of textiles. They are ready to assist any manufacturer in designing equipment to meet his special requirements.

NOTICE: Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

PROCTOR & SCHWARTZ, INC.

610 TABOR ROAD • PHILADELPHIA 20 • PA.

NEW Equipment AND MATERIALS

are collected and are drawn off by an exhaust system at the end of the oven.

Shape and size of the oven permits installation in spaces where drying length is confined. Power for automatic control is obtained from any available compressed air supply. A solenoid valve connected to the press motor control circuit regulates the admission of air to the pneumatic system. The speed at which the vent doors open and close is fully adjustable.

Herbert Products Inc., 74-32 Jamaica Ave., Woodhaven, N. Y.

For additional data, request item H-111, using business reply card on page 208.

Single-Phase, Dry-Type Induction Voltage Regulators

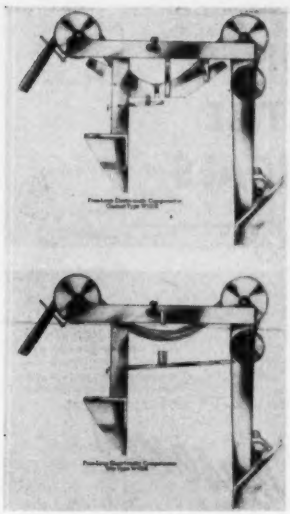
A redesigned line of single-phase "Inductrols" in standard ratings of 9.6 kva to 24 kva has been announced. Newest addition to the G-E family of dry-type induction voltage regulators, the single-phase units widen the field of application in which uniform voltage control can be obtained economically with small regulators, the manufacturer claims. Available for single phase circuits 600 volts and below up to 1,000 amperes. With standard controls, the single phase Inductrols can be used for secondary circuit regulation where lighting and power are supplied from the same lines in mills, etc. Housed in all-steel cabinet with all "live" parts enclosed.

General Electric Co., Transformer and Allied Product Divisions, Schenectady 5, N. Y. (H-213).

Tensionless Compensator Synchronizes Tub Speed

Riggs & Lombard are now equipping all "Laxloop" continuous washers—for light and heavy weight fabrics of wool, worsted or blends—with a tensionless device that automatically synchronizes the speed of each tub in the range. Known as the "Free-Loop Electri-matic Compensator," it also facilitates threading from tub to tub.

Cloth is allowed to hang in a free, tensionless loop between two small



Tensionless compensator synchronizes tub speeds (Riggs & Lombard). Upper photo, contact type; below: trip type.

stainless steel reels, one of which is an idler while the other is power-driven. When change of speed is needed, the cloth loop "signals" the motor of the following tub to change its rate of drive. Signal is automatically received and put into effect by the compensator, which is available as either contact type or trip type unit. Both are equipped with safety knock-off bars.

With the contact type unit the free-hanging loop of cloth closes an electrical circuit when it makes a contact between two metal plates. Closing the circuit causes the main drive unit on the next tub to speed up slightly as required. No control is needed to slow next tub down as this motor normally runs slightly slower.

Riggs & Lombard, Inc., Foot of Suffolk St., Lowell, Mass.

For additional data, request item H-110, using business reply card on page 208.

Vibrator for Feed Lines

The Peterson "VIbrolator" is used to aid movement of granular chemicals and such other materials that arch and resist movement toward the outlet of hoppers and bins, or where wet mixtures tend to entrain air. It is said to effectively vibrate the storage bin and cause materials to flow steadily toward the outlet. The powerful, all directional vibration does not damage the hopper or

Now—POSITIVE CONTROL OF RELAXATION SHRINKAGE . . .

With Redmanized Fabrics*

IN COTTON TUBULAR KNITS
COTTON and WOOL COMBINATIONS
ALL WOOL JERSEY KNITS and
RAYON TUBULAR KNITS . . .

Now in use in several large mills, the process for relaxation shrinkage through normalization, invented by Frank Redman, is providing positive control for cotton tubular knits, cotton and wool combinations, all wool jersey knits that meet rigid government contract specifications, and now *rayon tubular knits.* The system is available in two forms—as a complete range including a normalizer, basket shrinker loop dryer, calender and folder; or in an alternate arrangement which produces results within the limits set for Redmanized* fabrics and applicable where up-to-date drying equipment is already in use. The latter, representing a much lower initial investment, consists of the normalizer, calender and folder and is used with existing drying equipment. For more details on the system write for Bulletin #369. *Reg. U. S. Pat. Off.

PRIORITY INFORMATION

As priorities become the order of the day, Proctor & Schwartz are maintaining up-to-the-minute information . . . and will help any manufacturer in need of equipment for defense work to secure the necessary priority from the government to speed delivery.

NOTICE. This system is completely covered by both process and machinery patents and patents pending.

PROCTOR & SCHWARTZ, INC •

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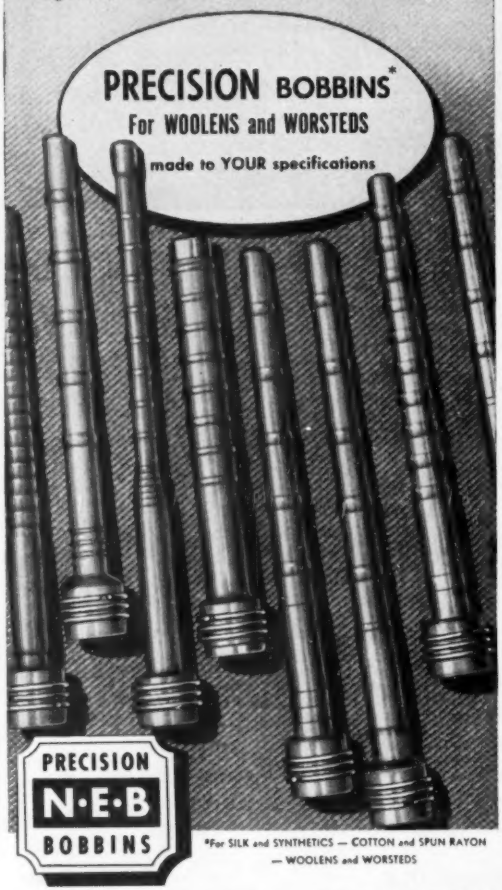
For WOOLENS and WORSTEDS

NEB PRECISION Automatic Loom Bobbins for woolens and worsteds are precision-engineered to *your* requirements . . . give smooth-operating, waste-reducing, trouble-free performance . . . in "Hard-Oil" finish for ordinary use . . . NEB Baked Enamel long-lasting finish for severe conditioning . . . try NEB PRECISION-Engineered Bobbins on *your* looms — and compare!



*For SILK and SYNTHETICS — COTTON and SPUN RAYON — WOOLENS and WORSTEDS

Precisioned to Size — Precisioned for Concentricity
Precisioned for YOUR Spindles . . .

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NEW ENGLAND BOBBIN & SHUTTLE CO.

Makers of PRECISION *Automatic Loom Bobbins*
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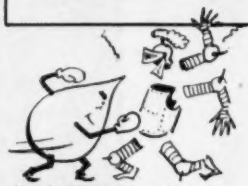
New York 4, N. Y.

HARRIS & UNDERHILL
446 Statler Building
Boston, Mass.

TANNER TEXTILE CHEMICALS



VERSENE FE 3 Specific*
Most powerful iron complexing agent known in normal pH range.

VERSENE*
Most efficient general complexing agent. Softens water completely and permanently without precipitation.

• • THE *Versenes*

VERSENE T*
Prevents and removes iron deposits from fabric treated with concentrated caustic.

VERSENE FE 3*
Prevents hard water deposits and iron stains.

VERSENES AND TEXTILES

The Chas. S. Tanner Company, as Southern Agents for the Bersworth Chemical Co., now offers you the Versenes in the South. By controlling metallic contamination, these most modern of chemicals give *cleaner* fibres, *softer* woolens and visibly *whiter* cottons. Among other things, they completely soften hardest water without precipitation.

OTHER TANNER CHEMICALS

Suedex Series.
These Resin Emulsions are semi permanent and easy to use in process finishing. Color yield is excellent and they give varying degrees of stiffness, fullness and finish on broadcloth and cottons of 80 squares.

Crystal Film.
These are Co-polymer type resins. They give beautiful transparent finishes. There are four types. Similar to Suedex in function but are used where even finer finishes are desired.

Ether Gum Binder.
For all types of clay or talc fillers for cotton goods. Non-yellowing properties.

Tantex A and Tantex B.
The *Durable* Type Water Repellent. Cottons treated the single bath Tantex way will retain their repellency for 3 washings or 3 dry cleanings. It will pay to investigate.

CST Gum No. 5.
A weighter type material. Used as a finish but imparts much weight to the fabric.

Tanamine Series of Softeners.
This is a complete line of cationic, anionic and non-ionic softeners.

*T.M. Bersworth Chemical Co.

EST. C.S.T. 1866

CHAS. S. TANNER CO. *manufacturing chemists*

1815 LIBERTY LIFE BLDG. CHARLOTTE, NORTH CAROLINA
Home Office: Providence, Rhode Island

storage bin, it is claimed. Easily mounted in many different ways; several sizes available for variance in operating conditions, materials, and equipment. Practically noiseless, self-lubricating, requires no maintenance.

Martin Engineering Co., Kewanee, Ill. (H-217).

Dyeing Assistant for Use with "Dacron"

Deeper, richer shades are reported to be imparted to "Dacron" yarns, knit goods, and woven fabrics when utilizing a recently developed dyeing assistant known as Amidye. Described as a solution of sodium salt of a complex phenol combined with suitable active agents, it thoroughly exhausts the dyestuffs, the manufacturer claims.

It is said that no difficulty has been experienced in obtaining excellent wet and dry crock-fastness and extreme depth of shade on maroon, cordovan, and navy sweaters and socks where lustrous shades are so important.

According to the manufacturer, Amidye can be used with any method of dyeing.

Amalgamated Chemical Corp., Philadelphia 34, Pa.

For additional data, request item H-112, using business reply card on page 208.

Cleaner Operates from Compressed Air

An industrial cleaner now on the market has a vibrating air valve that creates by the jet principle an agitating suction which forces dirt and metal particles into a container. The dirt container is supported on the back of the operative by a conventional belt and harness assembly.

By operating a second of two finger-tip control valves, a vibrating external air jet is created. This jet is directed forward through an orifice in the cleaner head to dislodge dirt and metal particles from inaccessible places to spots where they can be picked up by instantly changing to a suction action.

Air consumption is reduced to a minimum because of the vibrating valve action that sharply cuts off air

Ready power for your hand pipe tools with RIDGID

● Cut and thread more pipe faster, more easily with efficient No. 400. Lightest power unit made—one man can move it around on the job. Universal motor—forward, reverse, light socket power. RIDGID 3-jaw chuck, with chuck wrench ejector; self-centering workholder in rear turns with pipe. Sealed-in lubrication. Plenty of power, pays for itself in time and work saved in hand tool threading, cutting, reaming. Ask for the RIDGID "400" Power Drive at your Supply House.

RIDGID
★ Work-Saver Pipe Tools ★

NEW Equipment AND MATERIALS

supply 2000 times per minute. The cleaner head is polished aluminum and the wands are lightweight tubing. No oil is required since oil-impregnated powdered metal parts have been provided.

This cleaner is more efficient, the manufacturer claims, because the agitating suction action dislodges and collects dirt and metal particles that steady suction will not pick up. It operates from any 80 psi and up compressed air source; consequently, no fire hazard is created.

Standard nozzle width of 5, 8, and 10 in. can be had. Special designs will be made to suit customer requirements. Wand lengths are from 14 in. to 6 ft, depending on the application. The amount of suction and air consumption can be adjusted to suit the conditions.

Cleaner operated on compressed air (Vibro-Pneumatic).

Total weight of the unit complete is 7½ pounds. Several sizes of castered tank models from 20 gallons to 55 gallons can be had for wet or dry cleaning operations.

Vibro-Pneumatic Cleaner Co., Division of Patterson Products, 518 Maccabees Building, Detroit 2, Mich.

For additional data, request item H-108, using business reply card on page 208.

4-lb Dry Chemical Extinguisher With Hose

Ease of operation, flexibility of fighting overhead and ground-level fires, and maximum extinguishing effectiveness for inexperienced operatives are advantages cited for a new 4-lb dry chemical fire extinguisher with rubber hose now on the market. Discharge time has been increased on this model, it is claimed, giving untrained personnel more time to extinguish fires. Operating range: 12 to 15 ft. Self-closing nozzle produces fan-shaped stream pattern.

Ansul Chemical Co., Marinette, Wis. (H-216).

Prevents Static Charge on Nylon

Dextrol Lektrostat B, a new synthetic organic compound, is said to answer the electrostatic problem usually encountered in the spinning and processing of nylon. It has high affinity for nylon, the manufacturer claims, and can therefore be added either to the dye bath or to a separate bath after dyeing. Application by the usual padding operation is also permissible. Actual plant runs with Dextrol Lektrostat B are said to have shown that from 1% to 3% of the agent on the weight of the goods will provide satisfactory results.

Jarrett's
META-CLEAN

Started a New Era in Machinery Cleaning

Jarrett's META-CLEAN has been setting new records in fast and efficient cleaning of textile mill machinery. In addition, it has eliminated those lung irritating and eye smarting fumes, eliminated fire hazards and danger of harming skin or delicate machine parts. No wonder leading textile mill men are adopting it for all machinery cleaning purposes. Use the handy coupon below for a trial.

Other Jarrett Products

CHEMICALS	SUPPLIES
Caustic Soda	Meta-Clean Spray Guns
Hydrosulfite	Floor Cleaning Machines
Wetting Agents	Soaps—Cleaners
Soda Ash and Acids	Floor Wax
Textile Soaps	Disinfectants
Phosphates	Floor Seals
Oil Absorbent	Floor Finishes
Sodium Nitrite	Insecticides
Silicates	Paper Goods
Detergents	Deodorants

Satisfaction Given—Not Promised

CECIL H. JARRETT COMPANY, INC.
Manufacturer & Distributor of Chemicals and Supplies, Newton, N. C.

Please Send me:
META-CLEAN Literature ☐
META-CLEAN Sample ☐
Please Demonstrate META-CLEAN on my Equipment ☐
Mill.....
Address.....
Name.....

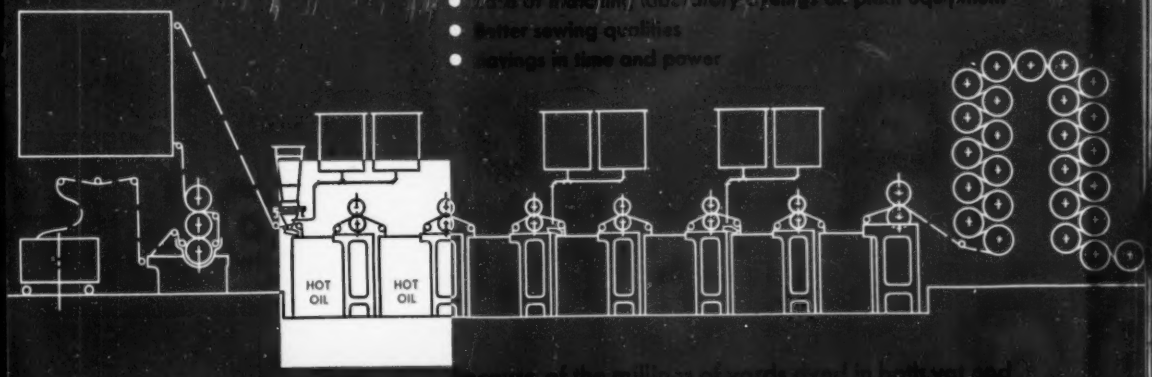
another GDC achievement

the hot oil process

A revolutionary process developed by the General Dyestuff Corporation for dyeing cotton fabrics.

Many plant runs have established the advantages of dyeing with this new and revolutionary process:

- Savings in dyestuffs and chemicals
- Complete control of shades
- Solidity of colors in pastel to dark shades
- Adaptability to long or short runs
- Ease of matching laboratory dyeings on plant equipment
- Better sewing qualities
- Savings in time and power



Because of the millions of yards dyed in both vat and sulphur colors by the HOT OIL PROCESS, General Dyestuff Corporation's Technical Department is able to answer your questions on its adaptability to your requirements.

Inquiries should be addressed to our nearest office.

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET, NEW YORK 14, N. Y.

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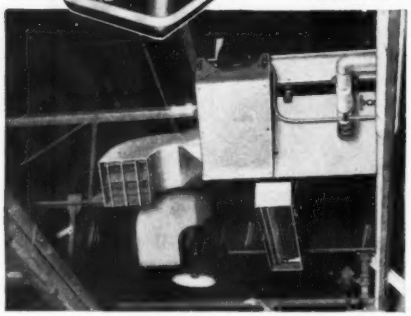
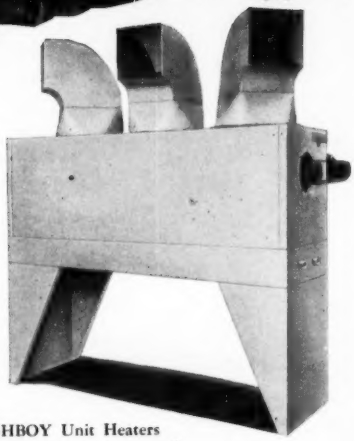
PLENTIFUL HEAT WHERE IT'S NEEDED with "Buffalo" UNIT HEATERS

Breezo-Fin Unit Heater



Buffalo Lowboy Unit installed overhead takes no floor space. Throws heat down where needed.

Plan *now* for adequate heat this coming winter! "Buffalo" offers you a complete line of suspended and floor type heaters suitable for any area you have to heat. All have the proven Aerofin coils for maximum heat dissipation and easy maintenance — plus efficient "Buffalo" Fans for most effective and economical heat distribution. These units also provide positive ventilation. HIGHBOY and LOWBOY units are used for makeup air in connection with exhaust systems. WRITE FOR BULLETINS 3704-A and 3137-D for complete data.



HIGHBOY Unit Heaters are narrow, for economical installation next to walls.

"Buffalo" FIRST FOR FANS

BUFFALO FORGE COMPANY

175 MORTIMER ST. BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Branch offices in all Principal Cities

VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT EXHAUSTING PRESSURE BLOWING

It is reported that the new chemical, readily soluble in water and slightly alkaline in reaction, is completely compatible with anionic agents under normal processing conditions. It is resistant to dry cleaning and washing, has a definite softening effect upon the nylon fibers, but has no adverse effect upon the light fastness of colors.

Dexter Chemical Corp., Boulevard P. O. Box 1, New York 59, N. Y.

For additional data, request item H-109, using business reply card on page 208.

Conveyor Press Has New Feature

An additional feature has been incorporated into Conveyor Press equipment. Basically the same as previous models, new models include provisions for pressing the goods from both top and bottom sides; whereas the garments were formerly pressed from one side only.

American Safety Table Company, Inc., Reading, Pa. (H-506).

8-Denier Rayon Staple

An 8-denier crimped rayon staple now being produced on a pilot plant scale is reported to yield fabric with a springy hand approximating 58-60's wool. It is being used 100 per cent on a very limited commercial scale in men's and boys' sweaters, bath mats, and upholstery and drapery fabrics.

Other possible uses, both for 100 per cent and for blends, are in men's hosiery, slacks, suitings, blankets, hand-knit yarns, knitted and wooly-type neckwear and terry cloth.

Fabrics made with the 8-denier staple are said to have considerably more resiliency and spring than fabrics made with 3- or 5½-denier rayon staple. Stiff, bristly effects are possible, similar to those obtained with mohair and coarse apparel wools, according to the manufacturer. It has been blended experimentally with mohair in frise and plush fabrics, and the results have been highly satisfactory.

The staple can be spun on the cotton as well as the worsted and woolen systems.

Preliminary wear and abrasion tests indicate exceptional wearing qualities.

The manufacturer states that it is not seeking to market the 8-denier staple now, since commercial production would have to be at the ex-

The time is *NOW*... *BETTER* Your Looms with Stehedco and Southern the *BETTER* Loom Harness Equipment

Yes . . . the time is NOW! And, as American Industry swings into full capacity production to meet the demands created by the impending crisis . . . massed humanity throughout a civilized world waits with abated breath and a hope that the results of our efforts will not be "too little and too late."

The *Textile Industry* shoulders a grave responsibility in this emergency. Mills must reach with all possible speed a maximum of production . . . the flow must be constant. Men and machines must now accomplish the impossible . . . day after day.

To accomplish this tremendous weaving task, we place at your service the complete engineering experience and facilities of our five large plants—spread throughout the nation where STEHEDCO and SOUTHERN—mill trained field representatives await your call.

These engineers will recommend the proper harness to REVITALIZE OLD LOOMS. They'll explain why new, modern high speed looms require top quality STEHEDCO and SOUTHERN Loom Harness Equipment to assure . . . fast . . . uninterrupted . . . FIRST RUNS. We've been doing this job through every crisis . . . since 1898. That is why today 9 out of every 10 mills depend on STEHEDCO and SOUTHERN LOOM HARNESS EQUIPMENT TO . . . WEAVE THE WORLD'S NEEDS.

STEEL HEDDLE MFG. CO.
2100 W. ALLEGHENY AVENUE PHILADELPHIA 32, PA.
Other Offices and Plants
Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.
SOUTHERN SHUTTLES, Paris Plant, Greenville, S. C.
A Division of STEEL HEDDLE MFG. CO.
STEEL HEDDLE COMPANY OF CANADA, LIMITED
310 St. Hubert Street Granby, Quebec, Canada

NEW Equipment AND MATERIALS

pense of other sizes, the demand for which exceeds productive capacity. The company is interested, however, in encouraging experimental work with limited quantities, as it believes the future possibilities of 8-denier rayon staple are great.

American Viscose Corp., 350 Fifth Ave., New York, N. Y. (H-102).

Proceedings of Time and Motion Study Clinic

Now available are the "Proceedings of the 14th Annual Time and Motion Study and Management Clinic" sponsored by the Industrial Management Society, November 1-3, 1950, at the Sheraton Hotel in Chicago. 112 pages including charts, forms, and other illustrations. Presents complete transcripts of talks by leaders of labor, management, and government on such topics as time study, motion economy, methods, plant layout, wage incentives, maintenance, and human relations. (Publisher: Industrial Management Society, 35 E. Wacker Dr., Chicago 1, Ill. Price, $3.00.)

Multi-Duty, Dump Bottom Box

"Precision" dumping with virtually complete spillage control are benefits reported to be derived by using the recently announced multi-duty, dump-bottom box named the "Work-O-Matic." Used in conjunction with a specially designed positioning stand, it makes possible continuous availability of parts in process at their point of use and at convenient work level. In the dumping operation, load is discharged by raising the rear end of the box rather than lowering the lift truck forks, enabling the truck operator to discharge the load completely at precisely the height and location desired. Dumping is actuated by a hydraulic dumping attachment which can be applied to almost any hydraulically operated fork truck.

The Union Metal Mfg. Co., Canton 5, Ohio (H-209).

Control Units Save Space, Operating Expense

Lower operating expense and reduced space requirements for control panels in power and industrial process plants can now be had, according to the manufacturer, as a result of the development of new miniature indicators and control units. These instruments, offered under the trade name "Mini-Line," make it practical to concentrate into a small space before a single operator all information and controls for operating one or more boilers, turbines, or process units. Instruments included in the line are a multi-point indicator, selector valve, and remote manual relay.

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio (H-215).

Booklet on Safety for Fork Truck Operators

That sound caution and strict observance of sensible safety rules pay off for the fork truck driver as well as for his employer, is the theme of a new booklet issued by Clark Equipment Company's Industrial Truck Division. With the title "Safety Saves," the book sets forth the "do's" and "don'ts" which experience has

NON-FLUID OIL
TRADE MARK REGISTERED

Accept No Substitutes

There is a trend throughout industry to establish minimum standards for each lubricant grade used. The fallacy of such a procedure lies in the fact that NON-FLUID OIL so far surpasses these minimum requirements that it offers more lubrication at less cost per month . . . regardless of any difference in initial price.

Write for free testing sample of NON-FLUID OIL. See for yourself how it will effect worthwhile savings on the cost of machinery maintenance and bring about increased production by keeping machines in steady, spot-less service.

New York & New Jersey Lubricant Co.

292 Madison Ave., New York 17, N. Y.

WORKS: Newark, N. J.

55th ANNIVERSARY NON-FLUID OIL

SOUTHERN DISTRICT MANAGER:
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WAREHOUSES: Atlanta, Ga. — Birmingham, Ala. — Charlotte, N. C. — Chicago, Ill. — Columbus, Ga. — Detroit, Mich. — Greensboro, N. C. — Greenville, S. C. — Providence, R. I. — St. Louis, Mo.

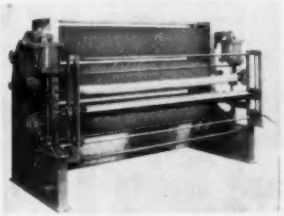
NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

established as a simple, practical code of industrial truck operation. The various admonitions, presented in an easy-to-take, good-humored fashion, and pointed up by cartoons, are offered as "refresher course" for experienced operators and as a helpful statement of fundamentals for those new at the job. This handy, pocket-size, 24-page booklet is printed in two colors. Requests for information about distribution of the book should be directed to the company in Battle Creek, Mich.

Hand Type Speed Indicating and Recording Instruments

A hand tachometer now on the market indicates without timing or calculating rpm and fpm speeds, speed fluctuations, belt slippage. Accuracy is 0.5% at any point of scales, according to the manufacturer. Has 3-inch dial, single spindle, quintuple selective range, with rotating gear shift. Made in three different range combinations for speeds 30-48,000 rpm, 15-24,000 fpm.

Also available from this same firm is a hand tachograph which is a



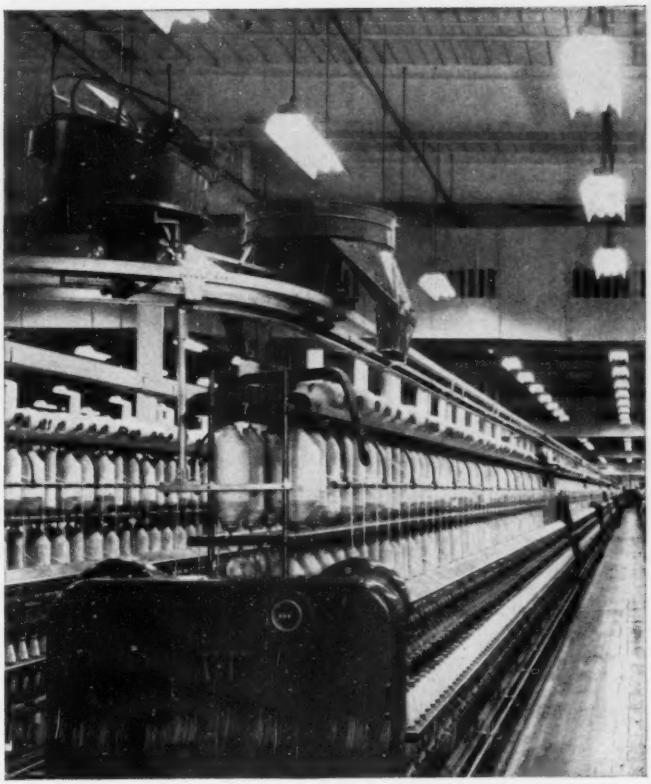
Caustic Padder for Single or Double Strands

This 15-ton, 100-inch face pneumatically loaded padder is arranged for either single or double strand processing.

It is a component of a complete steam pad dye range with all units being designed similar to the padder, permitting the complete range machinery to be used for either the double or single stranding without having to rethread the various units.

Cook-P&N Machine Co., Inc., 365 Dorchester Ave., Boston 27, Mass.

For additional data, request item H-113, using business reply card on page 208.



Continuous Cleaning

Ringrail to Rafters

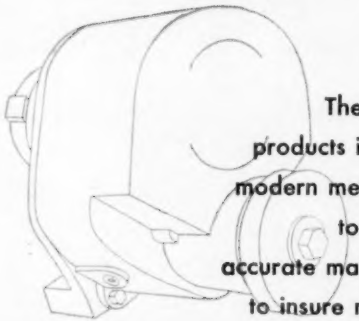
They surely must be doing a job, these Parks-Cramer Traveling Cleaners, for they are now standard equipment for more than 17,000,000 spinning, twisting, winding, spooling, and warping spindles.

And now its own twin, the Up-draft Cleaner, prevents lint accumulations topside. With Frame Cleaners, it runs tandem. In cardrooms or in other preparatory areas, it runs solo. And will it keep lights, conduits, ducts, and such, clean? You wouldn't know the place!

Parks-Cramer Company

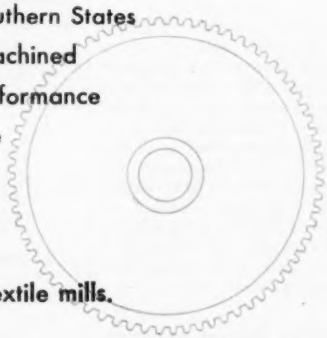
Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

Symbol of Quality...



The quality of Southern States products is the result of sound engineering, modern metallurgical and foundry practices to provide uniformity of specifications, accurate machining and rigid inspection to insure maximum operating efficiency.

The wide acceptance of Southern States Ball Bearing Comb Box, Southern States machine-molded cast tooth and precision-machined cut tooth Gears attests to the superior performance of Southern States textile parts. Your assurance of quality is guaranteed by an experience gained from more than thirty years of service to many of the South's leading textile mills.



Southern States Equipment Corp.

HAMPTON GEORGIA

Representatives - Mechanical Division

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Atlanta, Ga.

MATHEWS EQUIPMENT CO.
Providence, R. I.

JOHN C. WALTERS
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C. H. KENNINGTON
Charlotte, N. C.

ROY SCHRIMSHIRE
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TEXTILE PARTS & MACH. CO.
Gastonia, N. C.

F. C. TODD, INC.
Gastonia, N. C.

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

combination of the aforementioned tachometer and a precision recording mechanism. Everything the tachometer indicates is recorded for reference. Time is marked horizontally and speed vertically.

O. Zernickow Co., 15 Park Row, New York 7, N. Y. (H-202).

Recording Voltmeters and Ammeters Feature Improved Measuring Mechanism

A line of recording voltmeters and ammeters identified as the "Series 500" electric recorders features what is said to be an entirely new measuring mechanism and other improvements. A high actuating torque at a low electrical burden is produced by the moving-iron mechanism, it is claimed. Instruments make a continuous record of voltage or current on an 8-inch circular chart. Shock-protected, precision, stainless steel bearings, magnetic damping, and a locking device prevent damage due to rough handling.

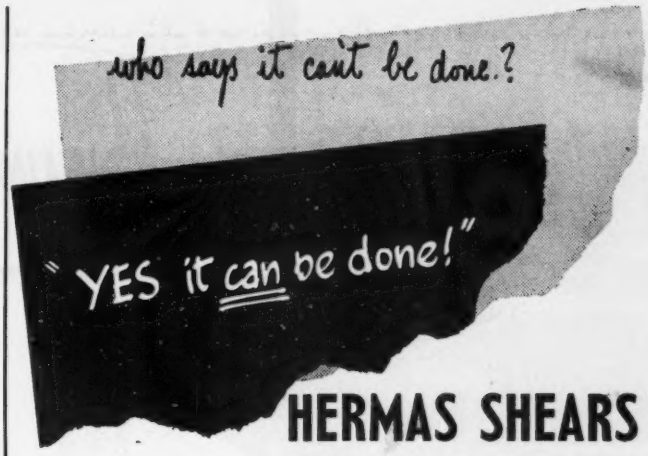
The Bristol Co., Waterbury 20, Conn. (H-203).

Jacquard Socks Knit Automatically

The Model JL Original Komet Double Cylinder Knitter produces automatically and in complete form hosiery consisting of Jacquard fabric in leg and instep, with plain foot bottom and 1/1 top.

Besides the unlimited variety of attractive Jacquards it was designed to produce, the Model JL knits all types of hosiery that can be made on Model BR Komet—men's half hose with 1/1 tops and plain, single or broad rib legs; turn-over-top articles like anklet socks, etc. In all cases the legs may be either plain or ribbed, the feet being plain. A patented feature retains perfection of pattern in the instep during the knitting of the heel.

Output of Model JL Komet is said to be exceptionally high, equalling that of a plain machine, and scope of patterning is practically unlimited. Pattern selectors have 26 pattern selector butt positions and there are 48 teeth in the pattern drum rack wheels. The latter may be racked one or two teeth at each rack, or



DO GET EVERY HANGING END

IN SHEARING PROPERLY WOVEN FABRICS

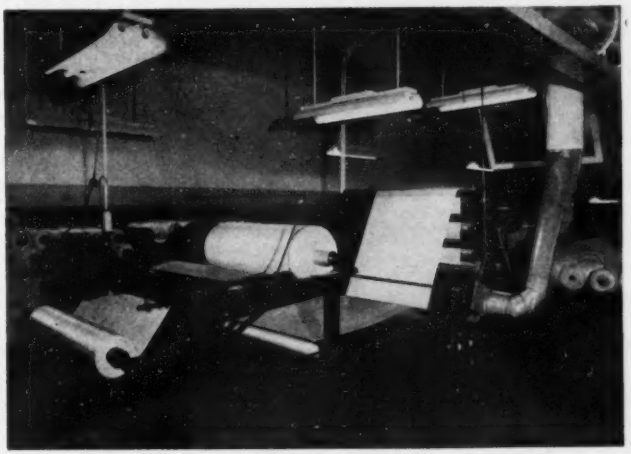
Hermas AV shears clear face, back, and both selvages of cloth in a single run through, at speeds up to 125 yards per minute. Every end in correctly woven fabrics is removed.

This shear is completely motor driven, with separate motors for each revolving knife roll.

The cloth, because of the vertical feed, always comes to the knives in such a way as to have all loose ends hanging free to be drawn into shearing position by air suction and taken off flush to the surface of the fabric.

An electrical device passes seams automatically at each knife roll separately, shearing to within 8 inches of the seam. Only one knife roll is stopped at a time, instead of all four rolls as in other shears.

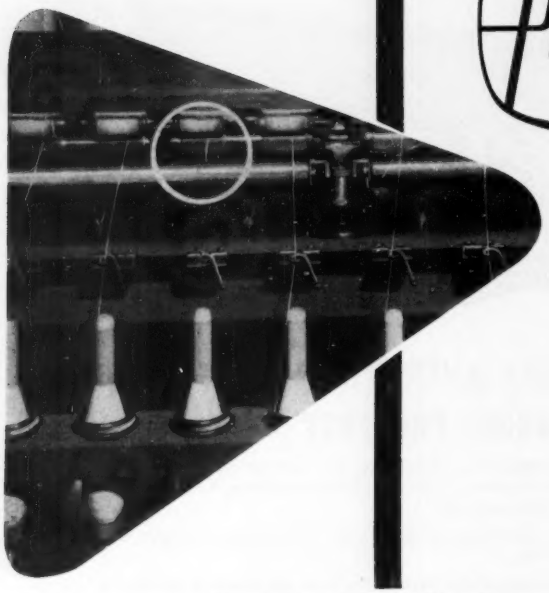
Write for 8-page, 3-color folder with full facts of Hermas shears.



HERMAS MACHINE COMPANY

America's only exclusive specialist in clothroom equipment.

HAWTHORNE NEW JERSEY



PNEUMAFIL®

"Eliminates Critical Shortages of Spinning Labor"

"We would not have been in position to turn out the production that we are now turning out had it not been for the fact that we had installed Pneumafil, thereby eliminating a shortage of labor in our spinning rooms," writes the president of a Georgia mill which operates more than 40,000 Pneumafil equipped spindles.

Because Pneumafil made possible the operation of the same number of frames with less labor, he writes that it was possible to transfer the extra spinners to a third shift, "thereby starting additional equipment on much needed production of essential goods."

Much of this production is for essential Armed Forces use—for pup tents; for packaging food, ordnance, supplies, and delicate instruments; for bomber wings, clothing, etc. Much of the rest goes to essential civilian use. Hence Pneumafil is contributing materially to war effort.

"Spinning jobs will become more critical as the labor supply tightens and we believe that it will be to the interest of the country as a whole to install as much Pneumafil as possible," he adds.

Pneumafil is a production weapon which spinners should investigate at once.

Cotton
Wool
Worsted
Rayon
Jute
Asbestos
Tow
Blends

South American and Continental Europe:
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Mexico, D. F., Mexico

PNEUMAFIL **CORPORATION** • 2516 Wilkinson Blvd., Charlotte, N. C.
Sales Offices: Boston—Philadelphia—Atlanta

may be held stationary for any number of racks in the course of the pattern.

Alteration of pattern is quickly accomplished by changing the positions of pins in the pattern drums. Considerable time and effort are saved in changing to make a completely different pattern by incorporation in the machine of an independent pattern chain which does away with setting out chain studs throughout the length of the main chain. At any time during the production of hose, Model JL's selective double feed may be withdrawn and replaced. Also, an adjustable corrector ring makes it possible to alter the position of any pattern, in relation to the heel, without changing the pattern pins. This means that, should the length of leg of the hose be altered, merely moving the corrector ring is sufficient to keep the pattern in the same relation to the heel as the original pattern.

The Bentley Knitting Machine Organization, Inc., Providence, R. I.

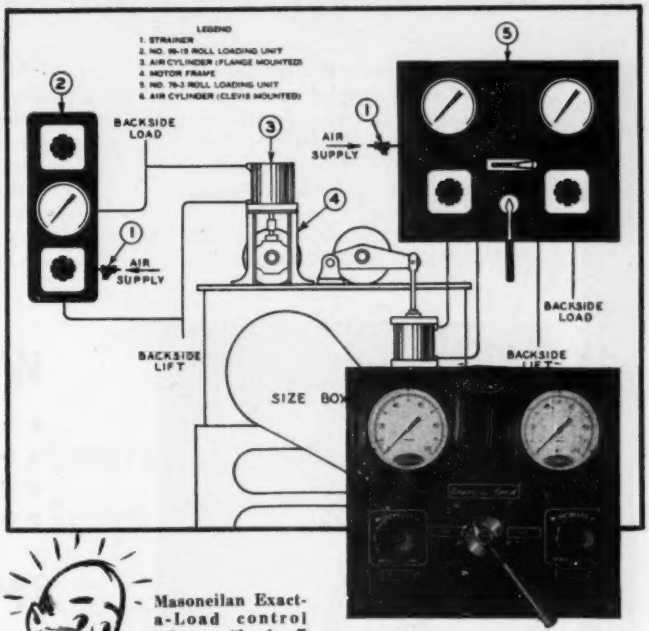
For additional data, request item H-104, using business reply card on page 208.

Chemical Feeder Has "See-Thru" Reagent Heads

The recently developed Model 2-47CF "Constaflo" chemical feeder is positive displacement, duplex diaphragm pump equipped with two "See-Thru" plastic reagent heads and is driven by a ¼ hp motor. Recommended delivery range: 1.0 to 15 gallons per hour. According to the manufacturer, the unit will draw solutions or slurries from a container

Model 2-47CF "Constaflo" chemical feeder (Proportioneers).

Take a Load Off Your Mind
WITH
MASONEILAN
Exact-a-Load
Air-Cushioned Roll Loading



Masoneilan Exact-a-Load control takes a "load off your mind" simplifying the operator's work by pneumatically maintaining the load on the rolls regardless of the variations in the thickness of yarn or fabric. Exact-a-Load control applications include — slasher size box feed rolls, extractors, dye padders, pickers, calenders, embossing, printing and other rolls. Get the full cost-cutting facts, today — write for new catalog.

See our Exhibit in Booths 210-216 at the Sixth National Instrument Exhibit, Sam Houston Coliseum, Houston, Texas, September 10-14, 1951.

Exact-a-Load Advantages

- **Air Cushioning** prevents bouncing of rolls due to "out of roundness."
- **Close Uniformity** in finished work by holding size, dye, etc., content with maximum extraction.
- **Reproduction of Exact Loading Conditions** permits duplication of runs.
- **Instant Loading, Unloading and Lifting** reduces waste with fast response to load and lift.
- **Increased Production** because pneumatic loading corrects conditions which keep down efficiency.

MASONEILAN

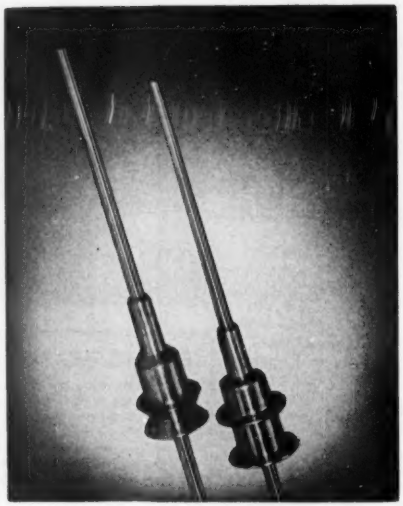
MASON-NEILAN REGULATOR CO.
1194 Adams Street, Boston 24, Mass.

Sales Offices or Distributors in the Following Cities: New York • Syracuse • Chicago • St. Louis Philadelphia • Houston • Denver • Pittsburgh • Cleveland • Cincinnati • Tulsa • Atlanta Detroit • Los Angeles • San Francisco • Salt Lake City • El Paso • Boise • Albuquerque Charlotte, N. C. Mason-Neilan Regulator Company, Ltd., Montreal and Toronto

New Fluted Rolls

Now Available at Substantial Savings

New automatic machinery recently installed makes it possible for Southern Spindle and Flyer Co. to manufacture FLUTED ROLLS for spinning and flyer frames at LOWER costs. We pass these savings on to you.
Compare our prices for all types of NEW fluted rolls with the cost of reworking OLD rolls. You'll be pleasantly surprised at the very small difference in cost.
All of our new fluted rolls are made with screw necks. They're precision made of the highest grade steel and are held to close tolerances. They can be finished also with hard chrome plating.



New England Representative
WM. R. FOX
P. O. Box 380 — Providence, R. I.

WHORLS

- Band and tape drive
- Precision made
- Made to specifications
- Guaranteed

SPINDLES

- Retopped by electric butt welding or tops built up with chrome and reground to size
- Pointed, polished, straightened — as good as new
- All spindles tested for straightness and accuracy at running speeds

PROMPT DELIVERIES AVAILABLE
Write, wire or phone 2-3118 for further information

50TH ANNIVERSARY OF SERVICE TO THE TEXTILE INDUSTRY

Southern SPINDLE & FLYER COMPANY
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and force them into a line or vessel under pressures up to and including 100 psig; delivery is smooth and pulsation free. Feed rate is manually adjustable. Moving parts submerged in oil bath. Accommodates large variety of liquids at temperatures not to exceed 100 F.

Proportioneers, Inc., Providence, R. I. (H-207).

Custom-Made Brushes for Cleaning Equipment with Close Tolerances

Custom-made brushes are now available for those machines or equipment that cannot be cleaned or properly maintained because of their size and close tolerances. If specifications, sketch, or actual parts are sent to the brush manufacturer, he will make up and submit the proper brush for the application. Details: length wire overall—as required; brush part (length, diameter, position on wire, design, etc.)—as required; any wire can be used (galvanized, stainless, monel, brass, etc.); diameters of wire, .0140 and larger; all brush materials are available, including horsehair, goat hair, fiber, nylon.

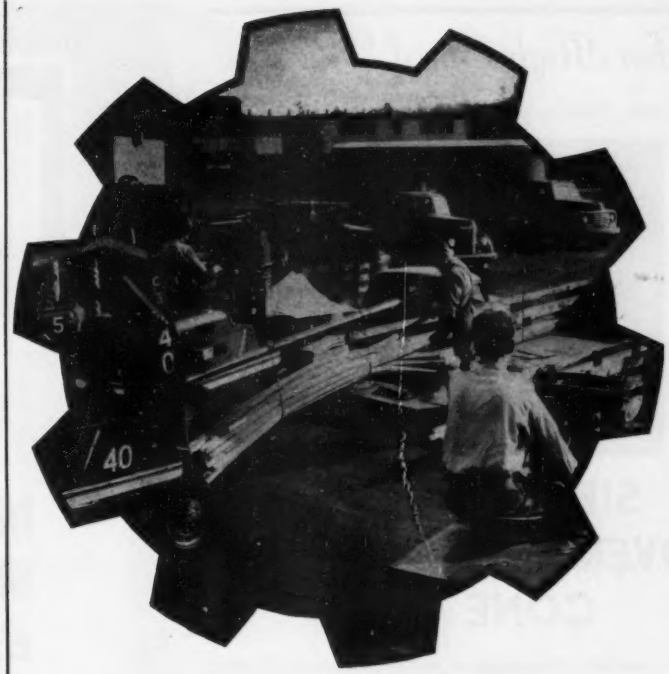
Walter Borten Co., Furnace Dock Road, Peekskill, N. Y. (H-210).

Individual Card Drive Uses Standard Motor and Controls

A recently developed individual cotton card drive is so designed that heavy starting loads do not require the use of special high-torque motors or special starting controls. This advantage is gained, according to the manufacturer, through the use of a unique centrifugal clutch mounted as an integral unit with the driven sheave.

The drive uses a standard V-belt with an adjustable-speed sheave on the motor and the centrifugal clutch sheave on the 5-to-1 ratio reduction unit. This unit is mounted directly on the card drum shaft. The entire drive is mounted in the card arch, and is completely supported by the card shaft pillow block.

The torque of the entire drive is designed so that it is taken hori-



Geared to Today's Task of Supplying Warehouse Steel

Our biggest problem—like yours—is getting enough steel. And we—like you—are having a rough time. But we are doing all we can to get our fair share.

Our next job is seeing that you get your fair share. Distributing our products on an equitable basis presents no problem—simply a lot of work, which we are glad to do.

Suggesting suitable substitute steels, advising folks on availabilities, keeping up with latest government regulations—all are a part of the task we are geared to meet. Call us if we can help you.

Our Warehouse Division is guided by the same sound business principles which have carried the Atlantic Steel Company through fifty years of steady growth and progress.

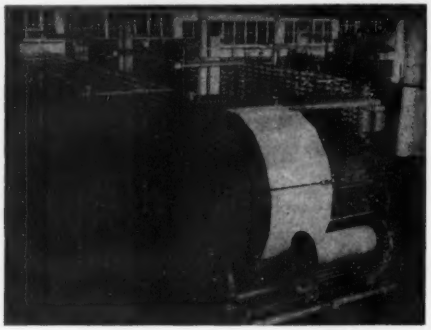
50th ANNIVERSARY ATLANTIC STEEL COMPANY 1901 · 1951

Quality steel products since 1901 DIXISTEEL

WAREHOUSE DIVISION
Atlantic Steel Company
ATLANTA, GEORGIA • EMERSON 3451

For High-Speed Warping

from cones, spools, tubes, or pirns



SIPP-EASTWOOD OVER-END MAGAZINE CONE CREEL

—for acetates, viscose, nylon, and other synthetic fibers, is made with three types of tensions:

1) Washer type. Employs double set of washers. Gives perfect tension for fiber yarns, as well as to fine denier flat yarns.
2) Pulley type. Retarding action obtained by friction applied to rotating members—not to the yarn.
3) Gate type, of hardened steel, gray satin finish, chromium plated to resist wear.

SIPP-EASTWOOD HIGH-SPEED HORIZONTAL WARPER

Makes warps of rayon, acetate, and other synthetic yarns at speeds up to 500 yards a minute. Exceptionally heavy construction. Takes up to 28" beams at beaming end. Back lash eliminated. Heavy-duty, multi-speed motor. Static eliminator.

IT'S A TRADE MARK SIPP EASTWOOD

Send for folders giving all particulars of these and other Sipp-Eastwood machines for efficient warping of synthetic yarns.

SIPP-EASTWOOD CORPORATION

45 Keen Street, Paterson 4, N. J.

Domestic Agents

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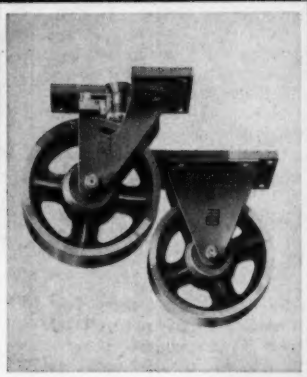
Charlotte 1, N. C.

J. S. FALLOW & CO.
New Bedford, Mass.



MOVE MATERIAL *the Easy Way*

DARNELL

CASTERS & E-Z ROLL WHEELS

Maintain maximum employee efficiency – equip your hand trucks and other movable equipment with DARNELL Casters and Wheels–SAVE MONEY and eliminate that mid-afternoon "bogging down" of production.

DARNELL CORP. LTD. Long Beach 4, Calif.

60 Walker St., New York 13, N. Y.
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zontally by the card frame. The adjustable-diameter sheave on the motor provides for a 25% variation in card speeds, thus making possible the best speed for processing various fibers under all operating conditions.

The drive is entirely enclosed in a heavy guard, and extends only 3½" beyond the end of the card shaft.

The American Pulley Company, 4200 Wissahickon Avenue, Philadelphia 29, Pa.

For additional data, request item H-603, using business reply card on page 208.

Composition Belt Will Not Slip

A rubber and fabric belt with teeth, known as the Gilmer Timing Belt, is similar in appearance to a flat belt except that it has regularly spaced rubber teeth along its inner surface which engage in corresponding grooves in the pulleys. Claims for the development: it will not slip, permits split-second timing, withstands surface speeds up to 16,000 feet per minute, and operates more quietly than precision gears running in an oil bath. It can be manufactured in any desired size and in a variety of materials to suit specific applications. Other features: It will not stretch; operates on fixed centers without take-up adjustments; has unusually high efficiency with extremely low bearing pressure; requires no lubrication, yet oil will not injure it; flexibility permits pulley diameters as small as ½ inch at 10,000 rpm, even with heavy load.

L. H. Gilmer Division, United States Rubber Co., Philadelphia, Pa. (H-507).

New Edition of Handbook for Mechanical Engineers

The fifth edition of the Marks' *Mechanical Engineers' Handbook* was published recently by the McGraw-Hill Book Co., 327 W. 41st St., New York 8, N. Y. Significant recent developments discussed under the heading of "Theory" are: Fluid mechanics, stresses in turbine disks, etc. Under "Processes": radiant heating, solar heating, high vacuum pumps, industrial supersonics, modern casting methods, statistical quality control, and automatic process control.

1901-1951

50th Anniversary

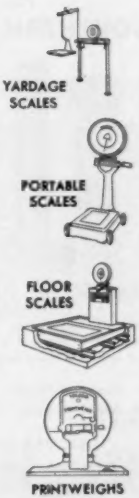
Today, more than ever, you can look to

TOLEDO

to guard your costs better!

After you've fought the battle of high costs and shortages—don't waste textile materials through careless handling! Tighten your control at every step! See that you have up-to-date scales—and enough scales—throughout your textile handling operations. Look into the advantages of Printweigh in stopping losses that originate through human errors. Whatever your problems in receiving, production, shipping, stock rooms and many other textile weighing operations . . . there's a modern Toledo to do a better job.

Today in your community you'll find Toledo as near as your phone; Toledo sales and service offices in more than 200 cities ready to help you in the selection or maintenance of scales vital in guarding your materials and costs.



Write for a copy of our 50th Anniversary Brochure . . . helpful information on modern Toledo equipment.

TOLEDO SCALE COMPANY

TOLEDO, OHIO . . . Toledo Scale Company of Canada, Ltd., Windsor, Ontario

HEADQUARTERS FOR SCALES

The Right BELT

makes any Drive RIGHT

Correct Use of the PROPER TYPE Leather Belt on any flat belt drive makes the drive RIGHT, increases machine production, reduces down time, lengthens belt life, and saves you money. On this simple truth our business has grown for over twenty-five years.

We can save *YOU* money by putting the *right* type drive on each one of your machines, the *right* type belt on each one of your drives and the *right* type strap on each one of your looms.

ATLANTA BELTING CO.

ATLANTA • GEORGIA

"SPECIALISTS IN BUILDING BELTS TO SUIT YOUR DRIVE"

"SOUTHERN MADE

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SOUTHERN TRADE"

PRECISION FINISHED . .

Bobbins and Cones made from the finest New England Hard Rock Maple and selected Hard Mountain Beech and Birch.

All Dogwood Skewers.

WE ARE LICENSED TO MANUFACTURE TUBES FOR

NEW ERA SPINDLES

Only Independent Bobbin Manufacturer in the South

MONTICELLO

BOBBIN COMPANY

MONTICELLO, GEORGIA

Expansion Program at Meadows Manufacturing

On the occasion of its 20th anniversary Meadows Manufacturing Co. of Atlanta, Ga., manufacturers of modernizers for spinning and twisting machinery, completed construction of the new general machine shop shown at the left in the photo above. It provides the progressive firm with 30,000 sq ft of additional floor space for expansion of its manufacturing operations.

When E. D. Meadows, founder and head of the firm, started in business in Huntsville, Ala., in the fall of 1931, his principal business was the manufacture of bands for band-driven spinning frames. Before moving to Atlanta in 1936, however, he developed and placed on the market a ball bearing band-driven tension pulley, forerunner of the ball bearing tape tension pulley for which the firm is so widely known.

Meadows' line has now been expanded to include ball bearing cylinder units, ball bearing jack studs, silent chain drives, separator shields, metal thread boards, lappets, builder motions, cams, steel whorls, a complete anti-friction spindle, and other parts for spinning and twisting frames.

Hanes Hosiery Mills Cafeteria

(*Continued from page* 94)

for glasses, china, and silver. Packed on special trays when dirty, none of these implements is touched by hand until it is picked up, clean, for reuse.

Walls throughout the kitchen are of glazed structural tile, which is easy to keep clean. There are exhaust ducts over all equipment giving off heat or steam, and 20,000 cfm of fresh air provide a complete air change every three minutes. Special automatic fire dampers are installed in the ductwork to stop the flow of air in the event of a kitchen fire.

Considerable thought was also given the design of the 540-seat dining area. The floor is of pigmented, dark red, concrete, and the walls are also of glazed structural tile of an attractive light green color. Supporting columns are dark green for half their height, changing to the light green of the walls for the upper half. The area is well lighted by fluorescent fixtures, and it is air conditioned with controlled temperature and humidity.

The air conditioning system provides 6,300 cfm of fresh and 17,700 cfm of recirculated air to give a complete air change every six minutes. Comfortable temperature and humidity are maintained during summer and winter. The refrigeration compressors and the air washers are located in compressor and plenum rooms outside but adjacent to the cafeteria area. The space marked "Compressor Room" on the drawing is for the low temperature compressors cooling the walk-in refrigerators.

The cafeteria is equipped with

amplifiers and speakers through which music is broadcast. The cafeteria space is also used for meetings, parties, square dances, and other recreational activities, and the speaker system serves for them as well.

The cafeteria at Hanes serves approximately 1,000 meals each working day, and the employees have been given the opportunity to enjoy good food at reasonable prices without Hanes Hosiery Mills Co. having to go into the restaurant business. The mill can make better seamless hose than Harding Williams, but Hanes readily admits that Harding Williams can cook a better meal.

Preparation and Bleaching of Cotton Piece Goods

(*Continued from page* 104)

tom, and as it enters it gradually loosens and raises the cloth. When all the liquor is in the kier, the kier charge valve is closed and the spray pipe is screwed in place inside the top of the kier. The nozzle of the spray pipe is placed downward to direct the spray onto the cloth itself.

In closed kier boiling, the spray is often directed upward against the fluted underside of the kier lid.

Steam Regulation. Next, the kier pump is started, and after good circulation has been established the steam is turned on. For best results and a uniform bleach, the temperature of the liquor should be raised slowly, about ten degrees per hour, until it reaches 180° F. The steam should then be regulated to hold the kier at this temperature until the completion of the boil.

Theoretically, the boil should be continued as long as it is possible to get a positive test for peroxide. However, in actual practice, most plants run the boil for an elapsed time of 10-11 hours and then boost the temperature to 200° F for a final hour or two.

At the completion of the boil the steam is shut off, the pump is

Just how good CAN you get?

It takes a whale of a golfer to shoot par for the course . . . but tournament *champions* shoot even *better* than par, by a few strokes. That "few strokes" improvement results from special attention to the fine points of the game.

In textile production, too, even *good* efficiency can be improved. For instance, it's entirely possible that a certain starch . . . perhaps even tailor-made to your own specifications . . . could contribute to an efficiency gain.

Why not call your Anheuser-Busch representative? He'll be glad to come and talk it over.

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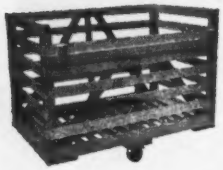
EXCEL



No Rust... No Snagging With Excel #600 Slatted Conditioning Trucks

Brass screws and cadmium plated bolts eliminate any possibility of rust. Because they are fastened from the outside they also insure against snagging. The Excel No. 600 is constructed of highly polished cypress or maple and finished with two coats of heat and acid resistant Tropelite to form a durable snag-proof surface. Slatted sides, ends and bottom permit perfect saturation and drainage.

Casters are securely bolted to bottom of truck.

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Mr. N. W. Eurey.....Lincolnton, N. C.
Mr. Paul Eurey.....Lincolnton, N. C.
Industrial Suppliers, Inc.
La Grange, Ga.
Fall River Mill Supply Co.
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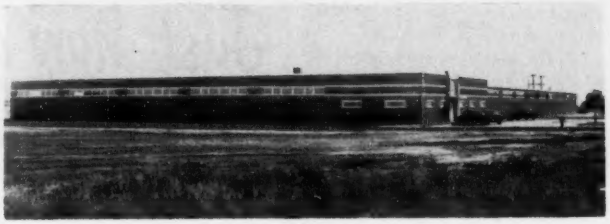
2601 N. Broad St., Philadelphia, Pa.

EXCEL

Textile Supply Co.

"Excel Trucks Excel"

LINCOLNTON, NORTH CAROLINA



New Southern Headquarters for Crescent Corp.

Crescent Corporation has opened a new southern headquarters on the New Union Highway, about two miles from the center of Spartanburg, S. C. It covers more than 75,000 square feet of floor space and will house the executive offices, machine shop, reconditioning department, display quarters, and warehouse.

According to Edward J. Ziskind, president, these facilities are another phase of the company's broad expansion program.

The new operation will be in charge of James A. Connell, southern manager for Crescent since 1936.

The southern organization will have a reconditioning department that is based on assembly-line operation, with experienced men rebuilding and modernizing all models and makes of textile machinery. A staff of riggers is maintained to remove or set up any kind of textile equipment.

Main headquarters of Crescent are at Fall River, Mass. Services offered are surveys, estimates, plant layouts, and complete reports on textile plants. An inventory of used textile machinery is maintained.

---

stopped, and the drain valves are opened. After the spent liquor has drained from the kier, the goods are washed down with cold water in the kier until the wash water runs clear. After the spray pipe has been removed, the goods are run out of the kier, through a double wash in two tight strand washers, through a squeezer, up over reels, and piled in the white bins.

Some bleachers don't bother to wash the peroxide bleached goods in the kier, but pull them out, as is, as soon as the liquor drains off. In either case, the bleaching process is complete when the goods reach the white bins.

Peroxide Kier Formula. As in caustic kier boiling, each plant has its own peroxide kier formula and each differs one from the other. A typical formula is given herewith. The percentages given in this formula are calculated on the weight of the cloth in the kier:

2100 gal. mix made up to a temperature of 120° F.

2% Hydrogen Peroxide (35% - 130 volume strength)
2½% Kier Assistant (Trisodium Phosphate or similar compound)
2½% Silicate of Soda—42° Be.
3/4% Tetrasodium Pyrophosphate
½% Detergent

(To be continued)

News in Brief

(Continued from page 75)

ure on land. Production models will be dyed high-visibility yellow.

Solution to Color Measurement Problem. Color measurement of open mesh materials—cheese cloth, laces, nylon stockings—is impeded by light and dark patterns formed by weave geometry. Solution to the problem comes from Instru-

ment Development Laboratories. Superimpose four or more layers of the material on mirror. When sample holder and mirror are inserted in this company's Color-Eye and the specular wheel rotated to "non-specular," the mirror back-illuminates mesh and fills in interstices with reflections of fabric. Secondary effect is to reduce influence of fiber orientation on reflectance. Total effect is to yield reliable instrumental indications.

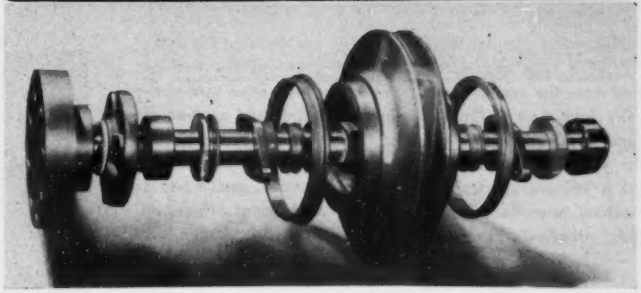
Halftone Screen Printing. Screen printing, utilizing low-cost, multi-color, halftone effects, has been developed by the Viviprint Co. Special equipment is used for the process which utilizes photographically prepared screens. Adaptation and improvement of present screen print techniques permits color register necessary to produce halftone effects on a mass production basis.

Insulation Value of Cloth. Professor Maurice E. Barker, head of the University of Arkansas department of chemical engineering, has asserted that, provided the cloth is dry and there is no wind, there is "little difference" in the insulation value of a piece of cloth, whether it is made of wool, cotton, rayon, or any of the synthetic fibers, so long as the thickness, structure, color, and density are the same.

Automatic Cotton Sampler. A mechanical cotton sampler has been developed by the U. S. Department of Agriculture. The sampler automatically collects lint during ginning and packages a cross section of the bale into a true sample, which carries the same identification as the bale from which it was taken.

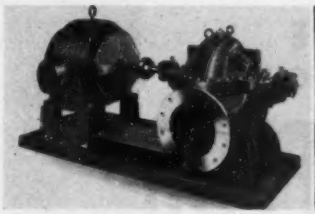
Plastic Bandaging Tape. A new surgical item specially recommended for use in industrial plants is a pliable plastic bandaging tape called Easitape. It is not sticky, leaves no residue or stains, and completely protects dressings from oil, water, dirt, etc., according to the announcement. Brasel Products, Inc., Batavia, Ill., are makers of the product.

"INSIDE STORY" on "Buffalo" PUMPING EFFICIENCY!

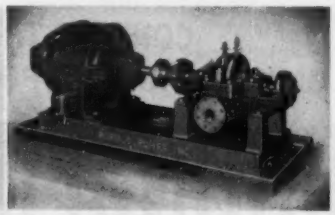


ROTOR AND SHAFT ASSEMBLY FROM A TYPE "SL" PUMP

Here is strength, precision construction and efficient design in the "business department" of the pump! Note the oversize shaft. It's of high grade steel, machined all over, bronze covered, or solid monel metal or other alloy. Impeller is mounted on an enlargement of diameter at center of shaft and secured by feather key and lock nuts. All rotating elements are assembled on shaft and put in perfect balance before being placed in pump. And, just as important, the impeller is hydraulically balanced—always receiving water from opposite sides in equal volume and pressure. Efficiency is increased, too, by the simply formed water passages in the pump casing of all "SL" Pumps. It's just another reason why there is no better buy in clear water pumping than a "Buffalo" Pump—for long life, for efficiency, for all-around economy.



"Buffalo" Double Suction Ball Bearing Pump, Type "SL", which is supplied with the shaft assembly shown above. For capacities from 10 to 10,000 gpm, clear water. WRITE FOR BULLETIN 955-N.



"Buffalo" Type "RR" Single Suction Pump, also used for clear water service, for high pressures, any temperature . . . in applications such as boiler feed. In 2- and 4-stage models. WRITE FOR BULLETIN 980-C.

"Buffalo" PUMPS

BUFFALO PUMPS INC.

175 MORTIMER ST. BUFFALO, NEW YORK

Canada Pumps Ltd., Kitchener, Ont.

Branch Offices in All Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

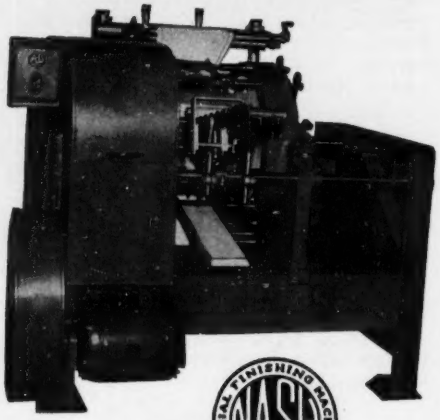
SAVE the Expense of Hand Washing with the No. 89 Nash AUTOMATIC BOBBIN WASHER

Washes flanged bobbins at 28 pieces per minute!

Textile mills throughout the country are finding the Nash No. 89 a time and money saver. It's a ten-spindle machine that does the entire washing and wiping operation automatically from start to finish. Eliminates the time and expense of hand washing. No dirt is left on the bobbin which would soil the yarn on the finished fabric. The cleaning solution used has a 140-degree flash point and is not toxic, assuring safe machine operation. The solution has no harmful effects on yarn, either natural or synthetic.

Write for complete descriptive bulletin

We also manufacture Automatic Bobbin Finishers, Quill Polishers and special-purpose machinery.



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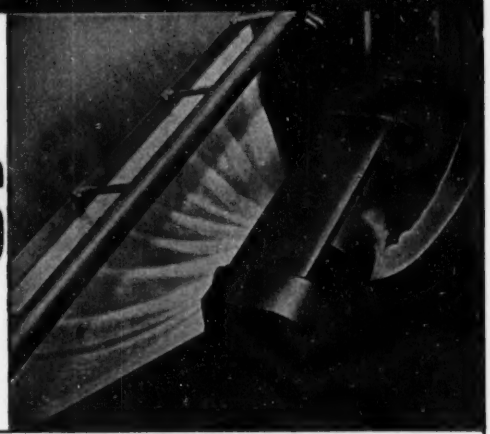

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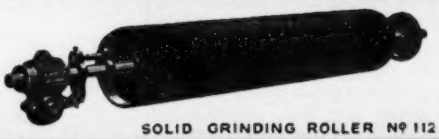
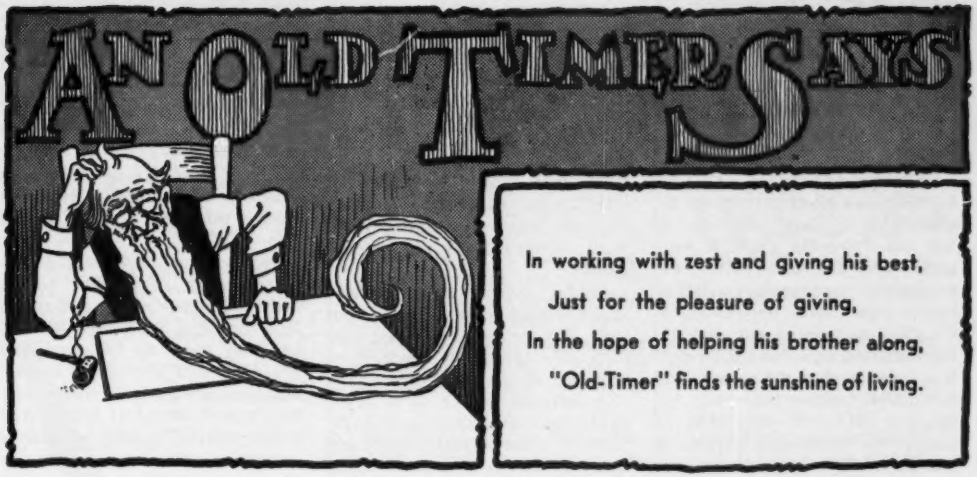


SOLID GRINDING ROLLER Nº 112

DRONSFIELD BROTHERS LTD · OLDHAM · ENGLAND


AN OLD-TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Know Your Picker Stick Cost?

CONTINUING his advice to "Jim," a progressive mill superintendent who requested suggestions for carrying out his recently assigned responsibility for purchasing all supplies at his mill, Old-Timer tells how he determined his picker stick costs.

PROBABLY this illustration will point this fact out to you more readily than the check strap explanation. Several years ago picker sticks were quite cheap. We asked the general manager of a large picker stick manufacturing firm to call on us. "Mr. A, can you give us 25% better value in a picker stick if we pay you 25% above your regular price?"

Without going into details of our conversation and many later conferences, about the selection of the very highest grade material, drying of same, selecting only two of his employees to make all of our picker sticks, etc., we gave him a blanket order to furnish us all the picker sticks we would use for a year.

Of course, we had always dated our sticks the day they were put on the loom. We also knew exactly how many sticks we used per year and the total dollars per year, or I should say, the loom hours we ran per year. As well as we remember, picker sticks were costing about 17¢ each at that time. The first shipment Mr. A shipped us was billed at 22¢. We finally were paying him 26¢ per stick, I believe, and our cost for picker sticks *decreased* at every step. And not considering the increased production, we were getting by with less loom stoppage. It takes longer, you know, to put in a picker stick than it does to install a check strap.

With picker sticks costing today from 40¢ up, we do not know if you can show such a saving as we did, but it is not a difficult problem to find out when you know exactly what your picker stick cost per loom hour is.

This same reasoning caused us to stop buying slab leather to cover loom binders or make harness and jack straps. We bought the very best belt stock, 5" wide, we could find, and cut 4¼" strips from it for all strapping. And did that pay off? What do you think? Meantime, don't forget each one of these things we did increased production by less loom stoppage. Tall trees from little acorns grow —What?

Yes, Jim, we dated our pickers too. Most all pickers in those days were made of leather. We found out that many of them were made of leather about the quality of slab leather. We made arrangements for a firm in Canada to use high grade belt stock to make our pickers. Sure they were expensive, but

Oh, Boy! did the fixers like them and as in most of the supplies, we were using merchandise of high grade materials, the cost per loom hour on our picker account went down and down. And again, less loom stoppage for installing pickers.

(*Continued next issue*)

Problem of Creeping Inflation

(*Continued from page 127*)

ing was said about any plans for preventing further inflation. In fact the President made it very plain that the government expected to create more inflation, rather than reduce the amount of it, when he pointed out that defense expenditures would be putting more and more money into circulation without increasing the quantity of goods available to satisfy the purchasing power of this money. The President was demanding authority to continue to attempt to control prices while at the same time continuing to create more inflation. This is obviously impossible. The government is just now preparing to create a tremendous amount of additional inflation by paying the customary fantastic wages that the government always pays in defense plants.

In his speech, the President spoke several times of wage controls, but we have no wage controls, and apparently there is no intention of having wage control. It is difficult to pick up a newspaper without seeing several reports of wage increases involving many thousands of persons. Every day dozens of strikes are going on for higher wages, and every increase in wages without a corresponding increase in production is inflation, and is bound ultimately to raise prices regardless of what the government thinks can be done about it.

Almost immediately after price controls were first announced last January, the price control authorities agreed that wages should be allowed to go up 10 per cent. If they do, about ten billion dollars is going to be added to the cost of living, because the price control authorities are going to have to let most prices go up enough to compensate for these increased costs of manufacture and distribution.

That will of course lead to another outcry for higher wages, and then higher prices, and so on. It is the same old foolishness that has been going on for years, and price controls that don't control anything are going to make matters worse instead of better. Any price control system is utterly worthless unless it controls the costs that determine prices.

Most of our government officials in public statements give the impression that they believe that prices are going up as a result of a selfish conspiracy on the part of people who have things to sell. Prices go up because people are able to pay them. When people are not able to pay them, prices go down.

We have stated a number of times that we believe that price control is really concerned with only one thing, and that is the control of money. If the government wants to reduce the amount of money in circulation instead of increasing it, prices will immediately go down. The government can reduce the amount of money in circulation by wage, profit and salary controls, and higher taxes.

A feeble gesture was recently made in this direction by increasing income taxes, but almost at the same moment, other agencies of the government were adopting a policy of wage increases to cover these additional taxes.

We stated some years ago that there was really no such thing as "controlling" inflation. You can prevent it, but after you have created it, you can not control its effect on prices. No possible price controls can keep prices down if money is inherently worth less. It is not only absurd to attempt to do

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As Production Engineers we specialize in the utilization of

LABOR — EQUIPMENT — MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"Their representatives employed in installing this system were of high caliber, and we are greatly pleased with the result of their work."

ONE OF THE COUNTRY'S LEADING HOSIERY PLANTS

Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

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The adjustable handle makes it possible to scrub and wax polish in congested places where hand cleaning had been necessary before — around and under machines, counters, desks, lockers, etc.

Operator can raise or lower handle to any angle within an 80 degree arc and shove the Lawlor under any equipment where there is at least a 9½ inch opening and as far back as 4½ feet.

Three Models—a size to suit every need

ANOTHER POPULAR LAWLOR

The Model 20-D is designed for large areas. It does everything in one operation: deposits clean water over the soaped floor, a 19" revolving brush scrubs it thoroughly; then a rubber squeegee mops up the dirty water, which is vacuum pumped into a second tank. The Model 20-D is only 22" wide and can be used around machines and equipment. The nice thing is that one person can easily operate it.

MOP WRINGERS

Quality built of all steel with perforated rolls. Foot lever operation. Made for one or two pails.

MOPPING TANKS

Made of heavy galvanized steel with welded seams. Two compartments, each with shut-off. Foot-pressure wringers. 30 or 60-gallon capacity.

All Lawlor Equipment is sold and serviced by local Janitor Supply Houses

Write for Catalog of complete line

S. C. LAWLOR CO.

Quality Floor Equipment for 50 Years

121 N. Aberdeen St., Chicago 7, Ill.

this, but definitely dangerous, because people with additional money to spend are going to find ways of spending it, and black markets must of necessity begin to flourish at the expense of legitimate business.

An immediate and pressing danger to the textile industry is the creeping aspect of this expanding inflation under the present ridiculous control system, which really controls nothing. The price control authorities have now authorized the textile mills to establish their own price ceilings, and frozen inventories can begin to move. In a price control system which is mostly a mass of exceptions, every mill is soon going to be forced to fight for making its own exceptions and raising its prices.

The woolen and worsted industry has already agreed to a substantial wage increase if the government will approve it. The New England cotton textile industry has likewise agreed to a stiff wage rise, subject to government approval.

If those wage increases are granted to about 100,000 northern workers, there will logically have to be some appropriate wage increases all over the industry. These wage increases not only give several hundred thousand persons more money to spend to push prices up, but will inherently increase the cost of everything made by the higher priced workers.

Textile mills are going to find that price increases authorized for their suppliers will be constantly inching their costs upward. The labor unions will indefatigably pursue their fixed policy of perpetual inflation, and even if the general wage increases referred to are denied by the price control authorities, the unions will be incessantly striking for more and more of the so-called fringe benefits, which, when granted, cause costs to creep gradually upward.

Our national government has been inflationary for 18 years, and there is no present indication of any change in that policy. We would certainly welcome a change, but we haven't seen it, and doubt if we do see it.

Save "Man Hours"

Every time you use Selig's

FLOR-O-SEAL FLOR-TONE

Dry Maintenance Method

Man-hours mean more today than ever before. Penetrating FLOROSEAL keeps moisture, oil and grease from damaging floors while FLORTONE prevents dirt and grit from being ground into the floor surface. This sealer-maintenance method makes every man-hour count for cleaner, safer, brighter and longer-wearing floors at lower cost.

The Selig Company

Manufacturing Chemists
Since 1896

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Call the Selig man nearest you:

ATLANTA NEW ORLEANS
DALLAS HOUSTON

The FLOROSEAL-FLORTONE method of "dry maintenance" is proven and recommended by maintenance men who count on quality to cut costs.

Personal NOTES
ABOUT MEN YOU KNOW

H. V. Lindsey, formerly overseer of weaving at Borden Mills, Kingsport, Tenn., has accepted the position of night supervisor at Dixie Duck Mills, Spartanburg, S. C.

Arthur Adams, of Paul Whitin Manufacturing Co., Northbridge, Mass., was recently elected president of the Southern New England Textile Club.

John Alexander has been appointed industrial relations manager for the Stark and Reid Mills, U. S. Rubber Co., Hogansville, Ga. **Elmer L. Johnson, Jr.,** is now assistant to the manager of the plant at Scottsville, Va., continuing as industrial relations manager. He succeeds **Stephen A. Ward,** now assistant to the manager at the Gastonia, N. C., combed yarn mill. **Earl Smith,** formerly picker room foreman at the Stark carding department, has been made shift supervisor at the firm's plant in Gastonia, N. C.

George Y. Jean, formerly chief product engineer for James Lees and Sons Co., has been appointed technical director in charge of the newly organized standards department of the company. **William Ebersold** has assumed the duties of chief product engineer.

At its fifth annual seminar, the New England Knitted Outerwear Manufacturers Association chose as its president **James F. Nields, Jr.,** Ware (Mass.) Knitters, Inc.

The New Bedford Textile Institute Alumni Association elected as president for the year 1951-52 **George Hotte** of A. M. Tenney Associates. Area vice-presidents are: New Bedford—**Henry Taylor,** Aerovox Corp.; Boston—**Siegfreid Carlson,** Boston Elevated Co.; Providence—**William Clarke,** Arnold, Hoffman & Co.; New York—**Cameron Baker,** U. S. Testing Co. Secretary and treasurer are **James L. Giblin** and **Francis Tripp,** respectively, both of New Bedford Textile Institute.

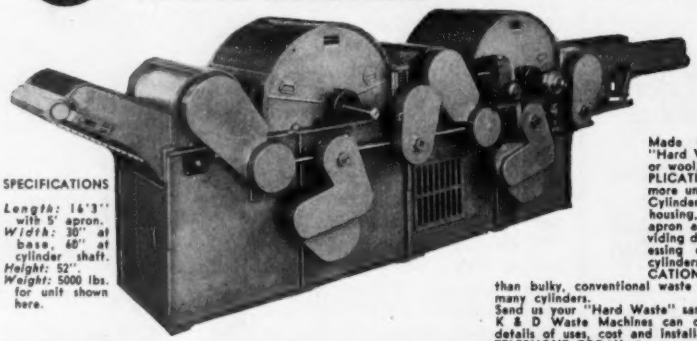
The New York Cotton Exchange has announced the election as president of **John C. Lee** of Scatterty & Jones, commission merchants. **E. Bradford Keith** of Walker & Co., was elected president of the Wool Associates of the Exchange.

Leslie F. Zsuffa, director of public relations at the Georgia Institute of Technology and a consulting engineer of Atlanta, Ga., has been recalled to active duty to assist in the design and construction of a Quartermaster research and development laboratory to be constructed at Natick, Mass. He will serve in the office of the Quartermaster General, Washington, D. C., as executive secretary of the Quartermaster Laboratory Design Committee.

You can now whip your "HARD WASTE" problem with the new

LEFT above is hard twist unsized cotton warp waste. RIGHT—the processed waste after one time through K & D Tandem Unit. Many mills, pleased with such results from first installation, have ordered additional units.

K&D TANDEM APPLICATION WASTE MACHINE



SPECIFICATIONS
Length: 16'3" with 5' apron.
Width: 30" at base, 60" at cylinder shaft.
Height: 52".
Weight: 5000 lbs. for unit shown here.

Made for processing unsized "Hard Waste" in cotton, rayon, or wool, this new TANDEM APPLICATION combines two or more units of the K & D Single Cylinder Waste Machine in one housing, with only one feed apron and one exit apron. Providing double-action waste processing on each of the unit's cylinders, the TANDEM APPLICATION is far more efficient than bulky, conventional waste machines with twice as many cylinders.
Send us your "Hard Waste" samples for *proof* of what K & D Waste Machines can do for you. Ask us for details of uses, cost and installation. WIRE, WRITE, or TELEPHONE TODAY, to

Kirkman & Dixon MACHINE SHOP and FOUNDRY
GREENWOOD, SOUTH CAROLINA
K & D SINGLE CYLINDER WASTE MACHINES • F-5 HOPPER FEEDERS, ANY WIDTH • SARGENT COMBS

Robert Seckler of Shepherd Knitwear Co., was recently made knitwear consultant of the Consumer Soft Goods Division, Office of Price Stabilization.

The State Department has awarded to **Luther W. Self,** Greensboro, N. C., a Fullbright Grant for foreign study during the next scholastic year. Mr. Self is a graduate of the textile school at N. C. State College, was a textile technologist with a New York textile firm, and has recently been enrolled at Duke University as a special student in business administration.

W. H. Wolfe, superintendent of carding at Martha Mills, Silvertown, Ga., was recently elected president of the Thomaston, Ga., Lions Club for 1951-52.

The American Society for Testing Materials recently conferred its Award of Merit on **William Henry Whitcomb,** Cranston, R. I., for his long and productive association with the work of Committee D-13 on Textile Materials. Mr. Whitcomb was chairman for two years and has been secretary since 1930.

Fred C. Scholler, president of Scholler Bros., Philadelphia, Pa., was recently re-elected president of the Philadelphia Textile Institute Foundation. **Theodore B. Hayward** of Swift & Co. was elected first vice-president.

Fred S. Arnold has been named manager of Seymour (Ind.) Woolen Mills. He was superintendent of the Alworth Woolen Mills, Duluth, Minn., before that operation closed.

Douglas T. Boyd, chairman of the Australian Wool Board, was recently made chairman of the board of directors of The Wool Bureau, Inc. He succeeds Harry J. Devereaux of Rapid City, S. D.

Professor Edward R. Schwarz, head of the textile division of the Massachusetts Institue of Technology, was recently made an honorary member of the American Association of Textile Technologists. The award was for outstanding achievement in advancing the knowledge of textile technology.

Cannon Mills Co. has announced the election as a director of **Ellison S. McKissick,** president of Alice Manufacturing Co., Easley, S. C. Mr. McKissick fills the unexpired term of the late George W. Fraker.

H. T. Markey has been made assistant to the vice-president, administration, of Dominion Textile Co., Ltd., Montreal, Que. **C. John West** assumes Mr. Markey's former post of advertising manager.

George B. Cramer, formerly president of Cramerton (N. C.) Mills and with the Economic Cooperation Administration's Industry Division in Paris, France, as head of the textile section for the past two years, has relinquished his post and returned to the United States.

Honorary master of science degrees were awarded in June by Lowell Textile Institute to **Francis W. White,** president, American Woolen Co.; **Kenneth R. Fox,** vice-president, Burlington Mills Corp.; **Quartermaster General Herman Feldman; Dr. John H. Dillon,** Textile Research

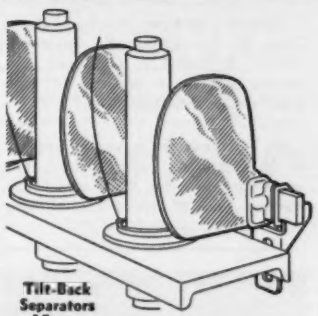
REDUCE "ENDS-DOWN"—CUT COSTS

WITH

WHITEHEAD *Permalite* ALUMINUM ALLOY SEPARATOR SHIELDS

Why burden your frames—and your overhead—with heavy, old-fashioned iron separator shields? Whitehead Permalite Shields are made of a special aluminum alloy—strong as steel but many times lighter. They mount right on the ring rail and can be flipped back for doffing . . . And with all their superiority, they cost no more!

EASY TO INSTALL Simply drill and tap ring rail. We supply the shields and bar drilled to your gauge and ring count, together with proper support hangers and all screws and washers.



Tilt-Back Separators 15c up

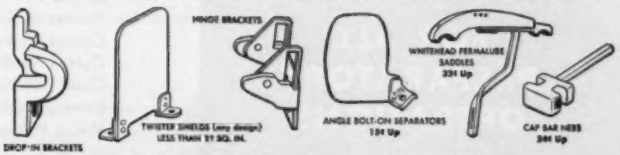
Stainless Steel Available for Rayon Spinning

EACH JOB ENGINEERED When ordering specify rail width, thickness of back flange, gauge and number of rings in each rail on one side only, as 24-22-22-22-24.

ONLY WHITEHEAD PERMALITE SHIELDS OFFER THESE ADVANTAGES

- Fewer ends down: some mills report 27% less
- Use of lighter travelers which reduce power costs, wear of rings and travelers
- Solid polished blades (not slotted) which cause less wear on yarn, collect less lint and fly, resulting in smoother yarn
- Less vibration, wear of cams, worm gears and lifter-rod bearings
- Reduction of live weight—from as much as 300 lbs in old slotted steel shield assemblies to as little as 35 lbs per frame
- No attention after installation

OVER 4,000,000 IN USE BY MORE THAN 350 AMERICAN MILLS


DROP-IN BRACKETS
TWISTER SHIELDS (any design) LESS THAN 27 SQ. IN.
MINOR BRACKETS
ANGLE BOLT-ON SEPARATORS 15¢ Up
WHITEHEAD PERMALUBE SADDLES 33¢ Up
CAP BAR HERE 24¢ Up

IMMEDIATE DELIVERY FROM STOCK ON ALL ITEMS

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Alabama, Georgia, Mississippi
Sam Hogg, Box 4354, Atlanta, Ga.
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J. P. Coleman, Box 1351, Greenville, S. C.
North Carolina
Walter Coleman, Box 722, Salisbury, N. C.
Tennessee
Ed F. Brown, 417 Dale Ave., Knoxville, Tenn.
Northern Representative
Matthews Equipment Co., 93A Broadway, Providence, R. I.

Personal NOTES ABOUT MEN YOU KNOW

Institute director; and **Ralph K. Hubbard,** treasurer of Packard Mills and president of the LTI Alumni Association.

Sidney Blumenthal & Co., Inc., has announced the appointment of **Duncan Ferguson,** formerly vice-president in charge of manufacture and manager of the firm's Shelton, Conn., plant, as vice-president-technical consultant. **Earl Jacobsen,** previously head of the design department, will be Mr. Ferguson's assistant. **T. M. Shock** has been made manager of the Shelton plant.

Research Fellowships have been awarded by Textile Research Institute to the following: **David M. Cates,** Greensboro, N. C.; **Paul C. Colodny,** Northampton, Mass.; **Richard L. Golden,** Baltimore, Md.; **Solomon P. Hersh,** Winston-Salem, N. C.; **Ludwig Rebenfeld,** Jackson Heights, N. Y.; and **Henry Kyi-oen Woo,** Shanghai, China.

Obituaries

Funeral services were held on June 20 for **Ernest F. Culbreath,** owner of Ernest F. Culbreath Co., textile machinery dealer. Mr. Culbreath was 49 years old.

K. L. Hamilton, secretary-treasurer of Canadian Cottons, Ltd., and associated with the firm since 1918, died on June 18 after a short illness.

After a two-year illness, **Lewis De V. Blake,** retired textile mill president, died recently at the age of 80. Mr. Blake was a resident of Belton, S. C., and had been president of the Belton Cotton Mills for many years.

Funeral services were held on June 6 for **Hiram Rivitz,** 68, chairman of the board of Industrial Rayon Corp., who died after a brief illness.

F. C. Dumaine, 85, who entered the textile business in 1880 as office boy with the Amoskeag Manufacturing Co., Manchester, N. H., and became famous as a textile manufacturer, died on May 27.

Frank W. Reynolds, an industrial engineer and for many years president of Lockwood Greene and Co., engineers, died on May 27 at the age of 83.

Joseph Wilkinson, retired assistant resident manager of the Wood Worsted Mill of American Woolen Co., died recently at the age of 75.

Walter Sims, 56, superintendent of Greenville (R. I.) Finishing Co., died of a heart attack on June 8.

Louis Price, 58, founder and president of Price Knitting Mills, Philadelphia, Pa., died recently after a short illness.

After a long illness **William T. Joyce,** president S. Slater & Sons, Inc., died on May 20.

DRYERS by SARGENT

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FOR ALL PREPARATORY OPERATIONS

OTHER SARGENT PRODUCTS INCLUDE:

Acidifying Machines
Automatic Feeders
Backwashers
Backwash Dryers
Bagging Machines
Ball Winding Machines
Burr Pickers
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Carbonizing Dusters
Cloth Dryers
Contra-Flow Dryers
Conveying Systems
Cotton Rinsers
Cotton Stock Dryers
Crush Roll Machines
Dusting Machines
Mixing Pickers
Opening Machines
Package Dryers
Press Roll Machines
Rayon Staple Pickers
Skein Dryers
Slat Conveyors
Special Dryers
Stainless Steel Bleach Bowls
Top Press Machines
Tray Dryers
Wet Pickers
Wool Drying Machines
Wool Washing Machines
Yarn Conditioning Machines
Yarn Drying Machines
Yarn Press Machines
Yarn Scouring Machines

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

Since 1852

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.

Georgia Tech Graduates

(Continued from page 115)

Robert Brown, Bachelor of Textile Engineering.

James E. Burke, B.S. in Textiles (textile manufacturing option); employed by Union Carbide & Carbon Corp., New York, N. Y.

Stanley D. Bulbin, B.S. in Textiles (chemistry & dyeing option); employed by Celanese Corp. of America, Cumberland, Md.

Henry L. Childress, B.S. in Textiles (textile manufacturing option); employed by Chicopee Manufacturing Co., Chicopee, Ga.

Burke C. Combs, B.S. in Textiles (textile manufacturing option); employed by Dixie Mercerizing Co., Chattanooga, Tenn.

Charles E. Commins, B.S. in Textiles (textile manufacturing option).

George H. Fisk, B.S. in Textiles (chemistry & dyeing option); employed by American Viscose Corp., Marcus Hook, Pa.

Ernest G. Graham, Jr., B.S. in Textiles (textile manufacturing option); U. S. Air Force.

George J. Gunning, Jr., B.S. in Textiles (textile manufacturing option).

William MacDonald Harris, B.S. in Textiles (textile manufacturing option); U. S. Navy.

Samuel R. McGraine, B.S. in Textiles (textile manufacturing option).

Arthur Hurvitz, Bachelor of Textile Engineering, Standard Romper Co., New York, N. Y.

William H. Muse, B.S. in Textiles (chemistry & dyeing option); employed by Tennessee-Eastman Co., Kingsport, Tenn.

Herbert Pels, Bachelor of Textile Engineering.

Robert G. Seid, Bachelor of Textile Engineering; graduate work.

Robert J. Stripling, Jr., B.S. in Textiles (textile manufacturing option); U. S. Air Force.

William E. Turner, B.S. in Textiles (textile manufacturing option); employed by Draper Corp., Hopedale, Mass.

Jack C. Webb, B.S. in Textiles (chemistry & dyeing option); employed by Nopco Chemical Co., Harrison, N. J.

William G. Wright, Jr., B.S. in Textiles (textile manufacturing option); U. S. Army.

James K. Shiver, Bachelor in Textile Engineering; U. S. Navy.

Jerome V. Bennett, Bachelor of Textile Engineering; U. S. Navy.

Homer S. Howell, B.S. in Textiles (textile manufacturing option); employed by Russell Manufacturing Co., Alexander City, Ala.

Kenneth E. Bell, B.S. in Textiles (textile manufacturing option).

Felix B. Montgomery, Jr., Bachelor of Textile Engineering; employed by DuPont Co., Waynesboro, Va.

James E. Mitchell, B.S. in Textiles (textile manufacturing option); employed by Crompton-Highland Mills, Griffin, Ga.

Robert E. Griffith, B.S. in Textiles (textile manufacturing option); U. S. Navy.

Walter C. Champion, Jr., B.S. in Textiles (textile manufacturing option); employed by Peerless Woolen Mills, Rossville, Ga.

Mark C. Balkcom, Bachelor of Textile Engineering; employed by Steel Heddle Manufacturing Co., Greenville, S. C.

Robert D. Bartro, B.S. in Textiles (textile manufacturing option); employed by Hermann Handkerchief Co., New York, N. Y.

Charles H. Peterson, B.S. in Textiles (textile manufacturing option).

Isadore Gepner, Bachelor of Textile Engineering.

Shelby Compton, Jr., B.S. in Textiles (textile manufacturing option).

Raymond M. Petrie, B.S. in Textiles (textile manufacturing option).

Sing Wu Chu, M.S. in Textile Engineering; employed by a textile mill in Hong Kong, China.

Evans A. LaRoche, M.S. in Textiles; employed as assistant professor of weaving, Clemson College.

Zaven S. Touloukian, M.S. in Textiles; employed by Deering, Milliken.

Joe E. Spearman, M.S. in Textiles; employed by American Enka Corp.

(Continued on page 194)

Representatives:

COLEMAN CO., INC.
Greenville, S. C.

SAM R. HOGG
1327 Clairmont Circle
Decatur, Ga.

WALTER S. COLEMAN
P. O. Box 722
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The laminated construction of Specialty Hardwoods' loom beam barrels assures square shoulders, lasting straightness and years of satisfactory service.

- *RESIN BONDED LAMINATED HARDWOOD BARRELS.*
- *STEEL SHAFTS — PINNED TO BARREL — NEVER WORK LOOSE.*
- *SHAFTS TURNED TO WITHIN .005" TOLERANCE.*

AVAILABLE IN CLEAR OR GRAY LACQUER FINISH.

Manufactured by

SPECIALTY HARDWOODS, INC.

P. O. BOX 1351 GREENVILLE, S. C.

Textile Graduates

(Continued from page 193)

Institute of Textile Technology

June 1951

Solomon P. Hersh, M.S. in Textile Technology; appointed as graduate fellow at Princeton University.

Barton L. Hinkle, M.S. in Textile Technology; fellowship at Georgia Institute of Textile Technology.

Elvan E. Hutchison, M.S. in Textile Technology; employed by Aberfoyle Manufacturing Co., Philadelphia, Pa.

Robert W. Lenz, M.S. in Textile Technology; employed by Chicopee Manufacturing Co., Chicopee Falls, Mass.

Malcolm A. Sanborn, M.S. in Textile Technology; employed by Bates Manufacturing Co., Lewiston, Maine.

William C. Sheehan, M.S. in Textile Technology; employed by Bibb Manufacturing Co., Macon, Georgia.

Vernon C. Smith, M.S. in Textile Technology; employed by Deering Milliken Co., Abbeville, S. C.

James W. Sweeney, M.S. in Textile Technology; employed by R. T. Vanderbilt & Co., South Norwalk, Mass.

Wallace O. Wilson, M.S. in Textile Technology; not known.

Norman F. Young, M.S. in Textile Technology; U. S. Navy.

Laconia H. Hance, Ph.D. in Textile Technology; Research staff of Institute.

William H. Martin, Ph.D. in Textile Technology; Research staff of Institute.

Donald R. Roberts, Ph.D. in Textile Technology; employed by Chicopee Manufacturing Co., Chicopee Falls, Mass.

Lowell Textile Institute

H. Shapley: employed by Boris Kroll Fabrics, New York City.

E. Abbot, Jr.: employed by Abbot Worsted Co., Graniteville, Mass.

M. Arsham: employed by Botany Mills, Passaic, N. J.

A. Bazakas: employed by Barnes Textile Associates, Boston, Mass.

J. Charewicz: employed by Western Felt Works, Chicago, Ill.

R. Fitzgerald: employed by U. S. Army Quartermaster, New York City.

J. Glidden: employed by Packard Mills, Webster, Mass.

R. Keith: employed by Dearnley Bros. Worsted, Philadelphia, Pa.

K. Miller: employed by Amoskeag-Lawrence Co., Manchester, N. H.

H. Seigel: employed by Dedham Mills, Dedham, Mass.

L. Solov: employed by Milton Solov & Co., Boston, Mass.

T. Trilling: employed by American London Shrinkers Corp., New York City.

K. Whitney: employed by American Viscose Corp., Marcus Hook, Pa.

INVESTIGATE **VANCIDE** TREATMENT

for mildew susceptible

TEXTILES

R. T. VANDERBILT CO. INC.

230 Park Avenue, New York 17, N. Y.

A. Guidotti: employed by Bachmann-Uxbridge Co., Uxbridge, Mass.

D. Abrahamson: employed by U. S. Army Quartermaster, New York City.

R. Bussiere: employed by Industrial Rayon Co., Cleveland, Ohio.

E. Morris: employed by Industrial Rayon Co., Cleveland, Ohio.

J. Bloomenfeld: employed by Industrial Rayon Co., Plainsville, Ohio.

A. Monaco: employed by Industrial Rayon Co., Plainsville, Ohio.

I. Needle: employed by Naval Clothing Depot, Brooklyn, N. Y.

I. Pantell: employed by Martin Weiner Corp., Clifton, N. J.

K. Patrick: employed by Pacific Mills, Carrboro, N. C.

B. Silver: employed by Iselin Jefferson Co., New York City.

W. Teta: employed by Avila Fabrics, New York City.

F. Brown: employed by General Aniline Corp., Easton, Pa.

R. Creegan: employed by Alexander Smith, Inc., Yonkers, N. Y.

J. Ducharme: employed by National Starch Co., New York City.

W. Kosowica: employed by Ciba Co., New York City.

J. Noonan: employed by National Aniline, Buffalo, N. Y.

F. Tully: employed by National Aniline, Buffalo, N. Y.

R. Shaughnessy: employed by National Aniline, Buffalo, N. Y.

J. Panto: employed by Burlington Mills, Greensboro, N. C.

R. Schlaginhaufen: employed by Geigy Corp., New York City.

R. Sumers: employed by Burlington Mills, Greensboro, N. C.

P. Tully: employed by Bates Mfg. Co., Saco, Maine.

R. Morrison: employed by Atlas Powder Co., Wilmington, Del.

A. Green: employed by Atlas Powder Co., Wilmington, Del.

N. Boghosian: employed by Whitin Machine Works, Whitinsville, Mass.

R. Cottrell: employed by Dow Chemical Co., Midland, Mich.

M. Aronowitz: employed by Portsmouth Naval Yard, Portsmouth, N. H.

R. Bischoff: employed by Portsmouth Naval Yard, Portsmouth, N. H.

G. French: employed by Portsmouth Naval Yard, Portsmouth, N. H.

T. Higgins: employed by Portsmouth Naval Yard, Portsmouth, N. H.

C. Goulekas: employed by Portsmouth Naval Yard, Portsmouth, N. H.

M. Halpern: employed by Portsmouth Naval Yard, Portsmouth, N. H.

S. Athas: employed by Chas. T. Main Co., Boston, Mass.

A. Weldon: employed by E. I. DuPont de Nemours, Wilmington, Del.

R. Berwick: employed by U. S. Army Quartermaster, New York City.

W. Buchanan: employed by C. G. Sargents, Graniteville, Mass.

E. Davis: employed by Code Felt & Knitting Co., Perth, Ont., Canada.

B. Duncan: employed by United Elastic Corp., Easthampton, Mass.

C. Eklund: employed by Naval Clothing Depot, Brooklyn, N. Y.

P. Girouard: employed by Bigelow-Sanford Carpet Co., Thompsonville, Conn.

D. Goodwin: employed by Good-all-Sanford Co., Sanford, Maine.

B. Hochberg: employed by United Merchants & Mfrs., Boston, Mass.

C. Kohnfelder: employed by United Elastic Corp., Easthampton, Mass.

C. Linberg: employed by E. I. DuPont de Nemours, Wilmington, Del.

W. Menzies: employed by Berkshire Fine Spinning Co., Providence, R. I.

A. Miller: employed by Owens Corning Fiberglas, Ashton, R. I.

M. Goldberg: employed by U. S. Army Quartermaster, New York City.

A. Lyons: employed by Naval Clothing Depot, Brooklyn, N. Y.

S. Rostler: employed by Atlantic Wool Waste, Worcester, Mass.

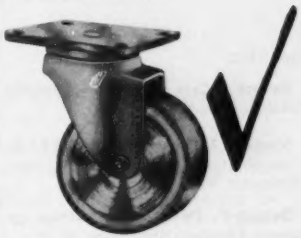
W. Ryan: employed by Thomas Wilson Lace Co., New York City.

A. Stein: employed by Stein-Tex Inc., New York City.

L. Rawitz: employed by L. W. Guild Co., Chicago, Ill.

(Continued on page 196)

The Freest Spinning Caster on the Market



Compare WIL-MAT Casters' spinning qualities with those of any other caster on the market. Twin heavy steel ball bearings, in thrust type hardened natural raceways, and accurately machined parts will keep WIL-MATs spinning freely long after other casters have stopped. This means that WIL-MAT equipped trucks, etc., roll with far less resistance—far less wear on your floors—and far less effort by personnel.

Add to this WIL-MATs 30% to 40% heavier tread (and longer life), its curved chip-proof bevel which cannot wear to sharp edges, and its sheet-steel tire which will not pick up grease, oil, or grime to track up your floors, and you have some of the reasons why WIL-MAT Casters have been adopted as standard equipment on the finest textile trucks and are used, exclusively, by many of the most progressive mills.

...and They Won't Clog Up

WIL-MAT CASTERS

Ball Bearing
RIGID & SWIVEL

Wilkin & Matthews
Charlotte, N. C.

Lowell Graduates

(Continued from page 195)

F. Nystrom: employed by U. S. Rubber Co., Passaic, N. J.

K. Fishback: employed by Naval Clothing Depot, Brooklyn, N. Y.

A. Horwitch: employed by Arnold Co., Chicago, Ill.

T. Casey: employed by Lowell High School, Lowell, Mass.

I. Feyler, Jr., employed by General Aniline, Rennselaer, N. Y.

N. Matlin: employed by Rohm & Haas, Philadelphia, Pa.

New Bedford Textile Institute

June 1951

Robert J. Cyr: employed by Seneca Textiles, New York, N. Y.

Vianney J. Dionne: employed by E. I. du Pont de Nemours & Co., Inc., Richmond, Va.

Daniel F. Donovan: employed by Seneca Textiles, New York, N. Y.

John J. Gajda: U. S. Army.

Paul L. LaFontaine: employed by Bates Manufacturing Co., Lewiston, Maine.

Lawrence C. Legere: Fellowship, Institute of Textile Technology, Charlottesville, Va.

Yuen Y. Lim: employed by William Klopman & Sons, New York, N. Y.

Oliver F. Selby, Jr.: employed by Fisk Cord Co., New Bedford, Mass.

Emanuel Kline: employed by Cohn-Hall-Marx Co., New York, N. Y.

Wilfred Ashbrooke Boucher, Jr.: employed by Atlantic & Pacific Tea Co.

Raymond F. Haworth: employed by Portsmouth Naval Research Station, Portsmouth, N. H.

Shee Y. Lee: employed by Portsmouth Naval Research Station, Portsmouth, N. H.

Thomas H. Lemieux: employed by Portsmouth Naval Research Station.

Clayton E. Sisson, Jr.: employed by Portsmouth Naval Research Station.

Boleslaw P. Matyanowski: employed by Firestone Manufacturing Co., Fall River, Mass.

Norman J. Mee: employed by Portsmouth Naval Research Station.

John J. Mello: employed by Portsmouth Naval Research Station.

Joseph L. Roberts: employed by James Hunter Machine Co., North Adams, Mass.

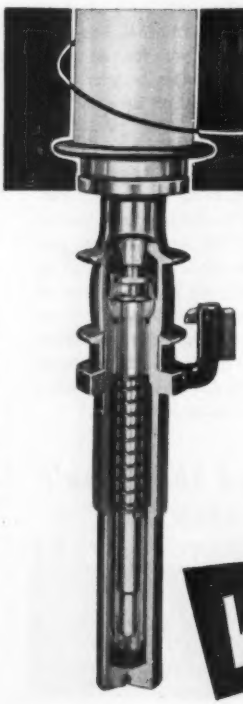
Ralph F. Tompkins: not known.

Walter Baumann: employed by General Dyestuff Corp., New York, N. Y.

Gordon S. Bradley: not known.

Frederick C. Burke: not known.

Richard Carbonaro: employed by



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OTHER AGENTS
in FOREIGN
COUNTRIES

Aerovox Corp., New Bedford, Mass.

Anibal Lopes Ferreira: not known.

John E. Fogarty: not known.

Armand L. Gagnon: U. S. Navy.

David B. Groves, employed by Brooklyn Clothing Depot, Brooklyn, N. Y.

Henry G. Guay: not known.

Morris N. Hahn: not known.

Irene J. Jaremko: employed by Ciba Co., Inc., New York, N. Y.

Arthur K. Kryger, employed by Civil Service, State House, Boston.

Philip Madeiros, Jr.: not known.

Albert A. Marquis: not known.

George D. Maynard, Jr.: employed by U. S. Testing Co., Inc., Hoboken, N. J.

Joseph M. Mellion: not known.

Edward G. Mello, Jr.: U. S. Army.

Robert R. Mercer, Jr.: employed by General Dyestuff Corp., New York.

Simonne M. Meurin: employed by Acushnet Process Co., New Bedford, Mass.

Andrew J. Mignerey: not known.

John J. Murphy: employed by Arkwright Finishing Co., Fall River, Mass.

James J. Pittman: employed by U. S. Testing Co., Hoboken, N. J.

Leonard L. Place, Jr.: not known.

James Price, Jr.: employed by Interchemical Corp., Hawthorne, N. J.

Leander B. Ricard: U. S. Navy.

Richard E. Riley: employed by U. S. Testing Co., Hoboken, N. J.

Murray Rosen: not known.

Beverly Ross: employed by Ciba Co., Inc., New York, N. Y.

Roland E. Sasseville: employed by Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J.

Jean M. Senesac: employed by Calco Chemical Division, American Cyanamid Co., Providence, R. I.

Gilbert N. Schofield: employed by E. I. du Pont de Nemours & Co., Inc., Nylon Plant, Seaford, Del.

Arthur C. Sirois: employed by E. I. du Pont de Nemours & Co., Inc., Richmond, Del.

William G. Sumner: not known.

Albin F. Turbak: Fellowship, Institute of Textile Technology, Charlottesville, Va.

James F. Tynan: not known.

Thomas F. Walsh: not known.

Barbara J. Mutter: not known.

Miriam S. Oothout: not known.

Francis M. Souza: not known.

Albert F. Caron: not known.

Robert A. Greene: not known.

Alfred P. Ramos: employed by Westinghouse Electric Co., Boston, Mass.

John L. Walker: employed by Morse Twist Drill, New Bedford, Mass.

Gilbert J. Waine: employed by Continental Screw Co., New Bedford, Mass.

The Provincial Institute of Textiles

May 1951

J. Gerard Cardinal: employed by Courtaulds (Canada) Limited.

Frederick A. Day: employed by Dominion Woollens & Worsteds, Ltd.

Donald A. Haig: employed by Canadian Cottons Limited, Hamilton.

John M. Laing: employed by Monarch Knitting Company Limited.

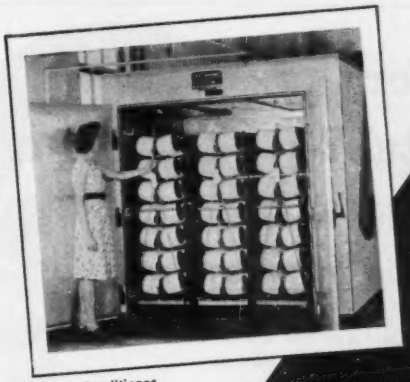
William F. Leishman: employed by Eaton Knitting Co. Limited, Hamilton, Ont.

Ross G. Nuhn: employed by Mercury Mills, Limited, Hamilton, Ont.

William J. Stevens: employed by Bamberger & Reinthal Co., Cleveland, Ohio.

W. Kurt Stump: employed by family mill in Mexico City, Mexico.

John M. Welsh: employed by Dominion Woollens & Worsteds, Ltd.



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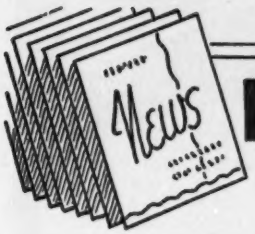

HELPFUL Booklets FREE

Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES advertisers to aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or new Equipment in which you are interested. Then fill in the numbers of those desired on the coupon on page 208 and mail it to TEXTILE INDUSTRIES. ("First Listings" shown below are not confined solely to TEXTILE INDUSTRIES advertisers).

This service is restricted to those engaged in operation and management of textile industries

8-1. Slashing Hints. A 20-page booklet offering helpful hints on warp sizing. Describes size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods, weighing for the mix, tips on cooking equipment, storage in kettles, methods of sampling for analysis, keeping size, stretch troubles, kettle insulation and size box coils. Seydel-Woolley & Co., 748 Rice St., N. W., Atlanta, Ga.

8-2. Lighting Catalog. New catalog describes, along with many other models, the low cost Slimline fluorescent lighting fixture for textile mills. Described as providing all directional lighting with no reflected shadows, and fixtures guaranteed not to rust in high humidity. Only one ballast required for 16 feet of lighting. Lithonia Lighting Company, Inc., Lithonia, Ga.

8-3. Steam Economies. Booklet consisting of 16 questions and answers regarding the economical use of steam. These questions and answers provide one with enough information to ask intelligent and provocative questions of the men who use and make steam. Sarco Company, Inc., Empire State Building, New York 1, N. Y.

8-4. Fiberglas Yarns. "Fiberglas Yarns for the Textile Industry" is the first comprehensive manual of its kind, and contains up-to-date descriptive information on techniques for weaving, finishing and otherwise processing fiberglas yarns into cloths, tapes, braids and sleevings. Textile Products Division, Owens-Corning Fiberglas Corp., 16 East 56th St., N. Y. 22, N. Y.

8-5. Textile Finishing. From the electrical standpoint, some of the most challenging jobs in the textile industry are the drives that power the large continuous finishing ranges, and this new booklet B-4034 describes electrical equipment for textile finishing. Factors in selecting drives for continuous ranges discussed, as well as the latest type drives for semi-continuous batch processes and printing ranges. Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

8-6. Textile Training. New booklet describing courses available in cotton manufacturing, carding and spinning, loom fixing, etc, full breakdown of the courses and sample pages of instruction along with testimonial letters from men in the textile field who have advanced themselves through this training program. International Correspondence Schools, Scranton 9, Pa.

8-7. Recording Viscometers. New booklet describes the Norcross Recording Viscometer as a rugged industrial process control, which accurately measures, records, and, where desirable, controls solution viscosities from 1 to 200,000 centipoises. Pictures and schematic diagrams fully describe the design and principles of operation of these instruments, along with a few of the well known companies using these recording viscometers. Norcross Corporation, 247 Newtonville Ave., Newton 58, Mass.

8-8. Steam Traps. New booklet answering many questions on why and how steam traps are used, and the booklet illustrates in detail the operation of the Yarway Impulse Steam Trap. Includes capacity charts, application diagrams, typical installations, installation and operation and other informtion of interest to those concerned with steam in industry. Yarnall-Waring Company, Chestnut Hill, Philadelphia 18, Pa.

8-9. Pneumatic Standards. The "J. I. C. Pneumatic Standards for Industrial Equipment," recently adopted by the Joint Industry Conference on Pneumatics as the desirable quality requirements to be specified by users of pneumatic machinery and equipment, are offered to the industry by Miller Motor Co. The standards are reproduced in full, with sample circuit, glossary of terms, two pages of standard symbols, and a comparison showing how Miller Air Cylinders meet these standards. Miller Motor Co., 4027 N. Kedzie Ave., Chicago 18, Ill.

8-10. Cloth Inspectors. Brochure describing and picturing the various models available in the Sykes line of cloth inspectors. Each model fully described and recommended uses are brought out. Sykes Foundry & Machine Company, Inc., P. O. Box 1178, Burlington, N. C.

8-11. Safety-Step Ladders. New catalog describes all-steel mobile ladders now available in models with from one to eight steps, for average work levels up to 11'6" above the floor. New 4-step "Stockart" ladder, with adjustable push bar hangers, for use with stock carts. Ballymore Company, Wayne, Pennsylvania.

8-12. A Fair Day's Pay and in Return a Fair Day's Work. New 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment and the resulting advantages for both labor and management. American Associated Consultants, Inc., 250 Park Ave., New York, N. Y.

8-13. Lift Trucks. New 24-page booklet in color illustrates and describes in detail, lift trucks in capacities of 1,000 to 15,000 lbs with design drawings and specifications. Includes information on selecting the proper model truck for the job. Barrett-Cravens Company, 4613 South Western Blvd., Chicago 9, Ill.

8-14. Kaylo. New booklet "The Story of Kaylo" serves to acquaint potential users with a new basic material which has wide application in the industrial field. Described as providing light weight and high insulating value. Many uses pictured and discussed. Kaylo Division, Owens-Illinois Glass Co., Toledo 1, Ohio.

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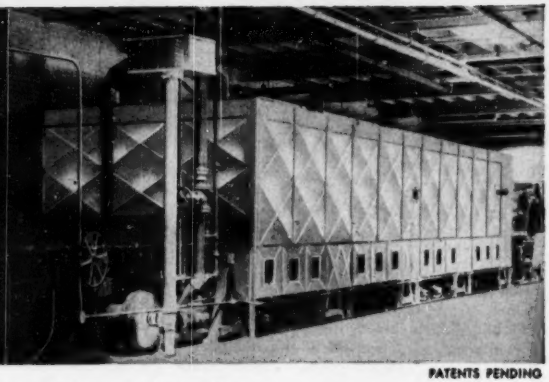

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GENERAL, ECONOMIC, MANAGEMENT

4 **HOW FACTORING CAN INCREASE PROFITS**—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., 2 Park Ave., New York City.

5 **FACTORING AND FINANCING**—Illustrated booklet on how factoring works, cost and credit information.—TEXTILE BANKING COMPANY, 55 Madison Ave., New York, N. Y.

7 **RAYON TELLS ITS STORY TO THE PUBLIC**—Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, 350 5th Ave., New York 1, N. Y.

17 **A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK**—8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management.—AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18 **FACTORING**—Information available on how factoring works to aid client in keeping capital fluid and to avoid credit losses. Inquiries regarding these services welcome.—L. F. DOMMERICH & CO., 271 Madison Ave., New York 16, N. Y.

PLANT AND PLANT MAINTENANCE

102 **"TANK TALK"**—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

108 **MAPLE FLOORING**—Booklet describing finishing of Northern Hard Maple Flooring — list of M.F.M.A.-approved heavy-duty floor finishes.—MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacker Dr., Chicago 1, Ill.

114 **AUTOMATIC CLEANERS**—For removing lint from recirculating air screens of unit or central station type air conditioning equipment described. Highly durable and economical in first and operating costs, according to the booklet.—THE BAHNSON CO., Winston-Salem, N. C.

115 **CORROSION-PROOF INDUSTRIAL FLOORS**—Bulletin 3-1 describes correct floor construction that is acid, alkali, solvent, and grease-proof.—ATLAS MINERAL PRODUCTS CO., Mertztown, Pa.

118 **"PARKS PARABLES"**—Recent issue on Parks Turbo Traveling Cleaners for spinning, winding, and warping. Type C.T.C. "Up Draft" cleaners keeps overhead and ceilings free from fly and lint.—PARKS-CRAMER CO., Fitchburg, Mass.

119 **MOPPING EQUIPMENT**—Complete catalog and circulars containing information on the many sizes and styles that can be had.—S. C. LAWLOR CO., 121 N. Aberdeen St., Chicago, Ill.

127 **SOLENOID VALVES**—Bulletin "V" lists sizes from ⅛ inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations.—THE JOHNSON CORP., Three Rivers, Mich.

137 **PUMPS AND COMPRESSORS**—Bulletin P-Q-11 presents the standard types of Gardner-Denver air compressors, pumps, and rotary drilling equipment (steam engines, steam and power pumps) in a brief and comprehensive manner to enable the prospective user to select the size and type for specific needs.—GARDNER-DENVER CO., Quincy, Ill.

138 **METAL CONVEYOR BELTS**—Ashworth Metal Conveyor Belt Catalog describing belts used for a wide range of applications in the textile field.—ASHWORTH BROS., INC., Metal Products Div., Fall River, Mass.

142 **ALUMINUM SCAFFOLDS**—Circulars describing features of rolling scaffolds designed for use in weave rooms, spinning rooms, etc.—UP-RIGHT SCAFFOLDS, 1013 Pardee St., Berkeley, Calif.

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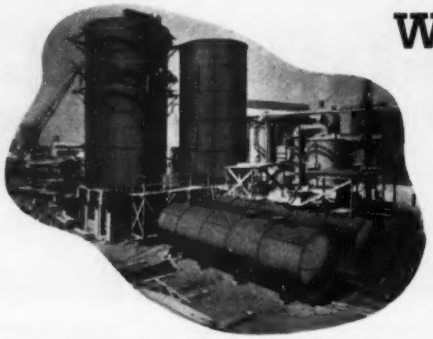

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151 **INDUSTRIAL BRUSHES**—Illustrated Booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M.W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

155 **DUCTLESS AIR CONDITIONING**—24-page illustrated Catalog No. 2 on Amco humidification and ductless evaporative cooling, along with other Amco humidification devices. Contains relative humidity tables and textile regains.—AMERICAN MOISTENING CO., Providence, R. I.

162 **MODERN METHODS OF TEXTILE FLOOR MAINTENANCE**—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.—G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

163 **WET SCRUBBING TEXTILE MILL FLOORS**—Illustrated pamphlet describes this operation using Lawlor floor machines, also contains specifications and describes floor scrubbing and water pickup machines.—THE SELIG CO., 342 Marietta St., Atlanta, Ga.

174 **PAINT STRIPPING BOOKLET**—Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion.—OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

177 **DUCTLESS AIR CONDITIONING**—Recent bulletin describing same.—AMERICAN MOISTENING COMPANY, Providence, R. I.

179 **BETTER WAYS**—Form 2020, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving, shipping, and production operations by all industries including the textile field.—TOLEDO SCALE CO., Box 97, Toledo, Ohio.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION

203 **TREADED LEATHER BELTING**—This 16-page booklet describes Houghton's line of patented, specially treated leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section.—E. F. HOUGHTON & CO., 303 West Lehigh Ave., Philadelphia, Pa.

204 **G-E MOTORS**—Bulletin GEA-5338 contains information on the new line of life-time lubricated, unit-bearing FHP motors.—GENERAL ELECTRIC COMPANY, Schenectady 5, N. Y.

209 **BROADSIDE F.L.B. 300**—A condensed catalog showing Trico fuses, fuse clip clamps, test clamps, fuse pullers and all types of automatic oilers. Available upon request.—TRICO FUSE MFG. CO., 2948 N. 5th St., Milwaukee 12, Wisc.

212 **GATES TEXTILE ACCESSORIES**—Showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions.—THE GATES RUBBER COMPANY, 1001 Broadway, Denver, Colo.

218 **BALL BEARINGS FOR TEXTILE MACHINERY**—A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing.—THE FAFNIR BEARING CO., New Britain, Conn.

226 **COTTON CARD DRIVES**—Booklet B-4596 which describes Westinghouse individual cotton card drives. Through the proper design of card motors by Westinghouse, individual drive is now practical and the booklet gives full information.—WESTINGHOUSE ELECTRIC CORPORATION, P. O. Box 868, Pittsburgh 30, Pa.

235 **JOHNSON LEDALOYL BEARING BRONZE**—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. JOHNSON BRONZE COMPANY, New Castle, Pa.

236 **LEATHER BELTING CALCULATOR**—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, 35 N. 6th St., Philadelphia, Pa.

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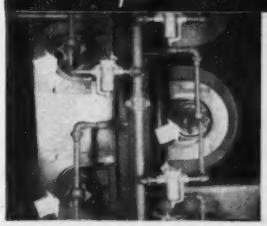

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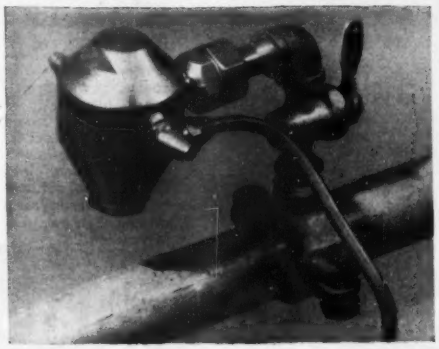

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258 VARIABLE SPEED DRIVES—Condensed catalog G-509 explains the operation of Reeves Variable Speed drives and contains representative rating and dimension tables for Variable Speed Transmissions, Vari-Speed Motodrives, and Vari-Speed motor pulleys.—REEVES PULLEY CO., Columbus, Ind.

263 NEEDLE ROLLER BEARING—Catalog Engineering and Application Data Edition 32A contains full data on selection of proper Needle Roller Bearings and outlines uses of such in various commodities, including textile uses, types, installations, lubrication, etc.—TORRINGTON COMPANY, Torrington, Conn.

264 NEW DEPARTURE SHOP MANUAL—Illustrated catalog showing ball bearing mounting and maintenance practice. Covers storage, cleaning, lubrication, types of bearings.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

271 CARDING, SPINNING AND WEAVING LUBRICATION—Informative bulletin describing advantages of NON-FLUID OIL over ordinary lubricants for the lubrication of carding, spinning and weaving machinery.—NEW YORK AND NEW JERSEY LUBRICANT CO., 292 Madison Ave., New York, N. Y.

283 CONTINUOUS OIL GROOVER — Bulletin available describing this unit which provides fast, accurate grooving on bearings of every size and type. Maximum production at a minimum unit cost discussed.—THE WICACO MACHINE CORP., Wayne Junction, Philadelphia 44, Pa.

290 MOYNO "PROGRESSING CAVITY" PUMPS — Bulletin 30-A describes the adaptability of these pumps to handling dyes, acids, sizing, and other materials used in textiles. — ROBBINS & MYERS, Pump Div., Springfield, Ohio.

INSTRUMENTS, STEAM SPECIALTIES

302 INSTRUMENTS — Illustrated catalog covering uniformity analyzer, acoustical measuring devices, and other non-destructive industrial measuring instruments. Illustrated brochure describing hypersonic equipment for both laboratory and pilot plant use in the field of ultrasonics. — BRUSH DEVELOPMENT CO., 3405 Perkins Ave., Cleveland 14, Ohio.

303 PROCESS CONTROL EQUIPMENT—Catalog containing brief description of standard and special process control equipment engineered for textile industry. Includes schematic diagrams. — MASON-NEILAN REGULATOR CO., 1190 Adams St., Boston, Mass.

315 CONTROL INSTRUMENTS FOR TEXTILE PROCESSES—32-page illustrated booklet describing controls for such processes as slashing, dyeing, bleaching, kier boiling, drying, air-conditioning, etc.—MINNEAPOLIS-HONEYWELL INDUSTRIAL DIV., 7th and Grange St., Philadelphia, Penna.

321 RED-RAY BURNERS—Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame.—RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

326 RECORDING VISCOMETERS—Bulletin V-1000B, describing equipment for manual or automatic viscosity control of sizing operations in the textile field.—NORCROSS CORP., Newton, Mass.

338 TEXTILE PRINTING COUNTERS — Catalog No. 75 illustrating and describing Productimeter Yardage and Printing Counters.—DURANT MFG. CO., Box 748, Milwaukee 1, Wisc.

CARDING, SPINNING, WINDING

403 WINDING MACHINES—Principles and Practices —This series available in booklet form for those in the industry who desire copies.—UNIVERSAL WINDING CO., Providence, R. I.

408 CARD GRINDING INFORMATION — Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information.—B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

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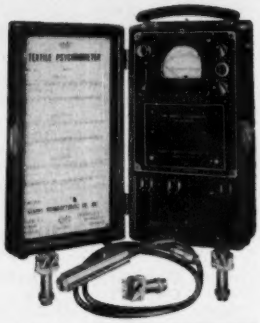

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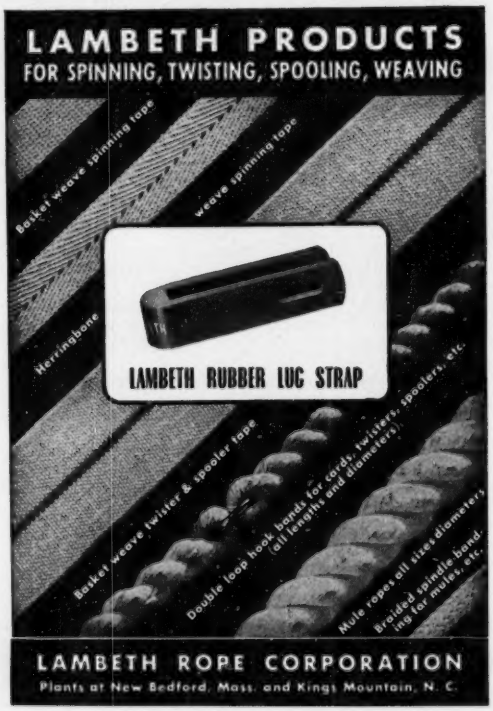
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414 **WORSTED SPINNING**—Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages.—SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

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441 **SKF BALL BEARING TENSION PULLEY FOR SPINNING FRAMES**—Attractive illustrated folder outlining the value of anti-friction bearing Tension Pulleys for all types of spinning frames.—SKF INDUSTRIES, INC., Front St. and Erie Ave., Philadelphia, Pa.

443 **COMPARATIVE YARN TABLE**—Chart giving woolen number (cut and run system), also cotton worsted and metric system; also, Comparative Rayon Denier Yarn Table.—VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

445 **ROLLER BEARING SPINDLES**—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

446 **WINDING MACHINES**—Principles and Practices is the title of Bulletin No. 339. Part 2 on the No. 44 Roto-Coner is profusely illustrated with exploded view drawings with charts and tables relative to drum winders.—UNIVERSAL WINDING CO., Providence, R. I.

447 **CONE WINDER**—Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply.—FOSTER MACHINE COMPANY, Westfield, Mass.

451 **CYLINDER BEARING**—New bulletin available describing and illustrating the cylinder bearing for spinning frames and twisters. This bearing fits all popular makes and is self-aligning. — SOUTHERN STATES EQUIPMENT CORP., Hampton, Georgia.

455 **PIN DRAFTS**—Catalog describing the use and features of the machine, what it can do to cut costs in the processing of natural and synthetic yarns, along with specifications and installation data.—WARNER & SWASEY CO., 5701 Carnegie Ave., Cleveland, Ohio.

458 **CONICAL RINGS AND FLYERS**—Special data available on the Herr conical rings and flyers.—HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

WEAVING, SLASHING

503 **WEAVER'S KNOTTER**—A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter.—A. B. CARTER, INC., Gastonia, N. C.

508 **LOOM PRODUCTION CHARTS**—Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds.—RALPH E. LOPER CO., Greenville, S. C.

516 **WEAVE ROOM ACCESSORIES**—Weave-room accessories catalog and literature on new plastic, bronze bearing sheave, which solves a troublesome weave room problem.—EMMONS LOOM HARNESS COMPANY, Lawrence, Mass.

518 **NIAGARA TWIST-SETTER**—Folder describing the revolutionary Niagara Twist-Setter which has no moving parts. This yarn is sprayed from all sides to afford maximum economy.—SEYDEL-WOOLLEY & CO., 748 Rice St., Atlanta, Ga.

524 **JOHNSON WARP SIZES**—12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis.—CHARLES B. JOHNSON MACHINE WORKS, Piercy and Holsman Sts., Paterson, N. J.

DYEING, FINISHING, CLOTH ROOM

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630 **VAT DYEING OF WOOL**—Write for Calco Technical Bulletin No. 797 outlining fundamental dyeing procedure, and explaining new advances in the technology of wool dyeing and finishing.—CALCO CHEMICAL DIVISION, AMERICAN CYANAMID CO., Bound Brook, N. J.

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DYESTUFFS, CHEMICALS, SOAPS

750 **SUPERCLEAR** — Leaflet describes this scientific printing thickener which is an ideal thickener for printing all types of textile fibres and fabrics. Noted for its extreme purity, complete solubility and exceptional penetrating properties.—JACQUES WOLF & CO., Passaic, N. J.

756 **TEXTILE SPECIALTIES**—Listing and describing a wide and complete range of specialties manufactured and sold by American Cyanamid Company formulated to the latest advances in textile chemistry.—AMERICAN CYANAMID COMPANY, 30 Rockefeller Plaza, New York 20, N. Y.

766 **DU PONT PEROXIDE BLEACHING SYSTEMS** —New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included.—E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

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KNITTING

816 **THE NEW REINER KAYLOOM**—A combination Knitting Weaving Loom, featured in an illustrated catalog, showing filler attachment and other important points along this machine.—ROBERT REINER, INC., Weehawken, N. J.

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SEWING MACHINES

901 **LOCKSTITCH MACHINE WITH AUTOMATIC LUBRICATION** — Bulletin illustrating new unit for single needle stitching on wide variety of articles. Form 886.—WILLCOX & GIBBS SEWING MACHINE CO., 214 West 39th St., New York City.

907 **"FLATLOCK" MACHINE**—Folder No. 902 describing, with illustrations, flat seaming operations on knit underwear, lingerie, etc. — WILLCOX & GIBBS SEWING MACHINE CO., 214 West 39th St., New York, N. Y.

915 **THE NEW UNION SPECIAL LOCKSTITCH MACHINE**—Information on the new model which cuts production time on sewing operations is contained in Bulletin No. 258.—UNION SPECIAL MACHINE CO., 400 N. Franklin St., Chicago 10, Ill.

MATERIALS HANDLING

1002 **BASKETS & TRUCKS**—Illustrated catalog describing canvas baskets and trucks of all types and sizes with recommended uses emphasized.—MEESE, INC., Madison, Ind.

1004 **PITTSBURGH COLLAPSIBLE CARGOTAINERS**—How your materials handling cost can be reduced by the use of steel wire containers. Brochure shows them in actual use. — PITTSBURGH STEEL PRODUCTS COMPANY, Pittsburgh 30, Pa.

1005 **BASKETS, HAMPERS & TRUCKS**—This 24-page catalog is profusely illustrated and contains complete description on the Dandux line, especially designed for the textile industry.—C. R. DANIELS, INC., Daniels, Md.

1008 **CASTERS AND WHEELS**—An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters.—THE COLSON CORP., Elyria, Ohio.

1010 **CONVEYOR KEY BOOK**—A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN COMPANY, INC., 1115 Franklin St., Louisville, Ky.

1027 **SINGLE-BEAM CRANES**—Bulletin No. 130 describing and illustrating the single beam type of overhead traveling crane.—SHEPARD NILES CRANE AND HOIST CORP., Montour Falls, N. Y.

MISCELLANEOUS

1108 **FABRICATION OF U. S. STAINLESS STEELS** —136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosive-resistance tables for chemicals.—CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

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1112 **THE RANDOM WEB PROCESS**—Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams.—CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

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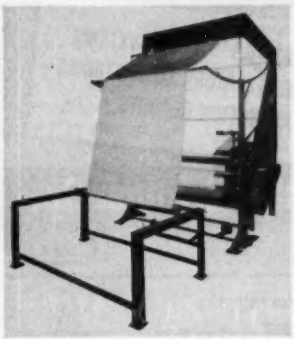

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What the TEXTILE MILLS are doing

Graduating sons and daughters of employees of **Anchor Rome Mills, Inc.**, Rome, Ga., were recently honored at a luncheon given by the company, with presents distributed by L. H. Rice, president of the mill. Following the luncheon the group was led on a tour of the mill.

Bigelow-Sanford Carpet Co., Inc., has merged with its wholly-owned subsidiary, Bristol Mills, Inc., to form a new Delaware parent corporation under the name Bigelow-Sanford Carpet Co., Inc.

N. E. Burgess, president of "The House of Burgess," heads the newly organized **Burgess Mills Corp.**, Elizabeth, N. J., which will operate mills for weaving fine Jacquard upholstery and drapery fabrics.

Gifts of two 600-hook Jacquard head machines have been presented by **Burlington Mills Corp.**, to the textile departments of North Carolina State College and Clemson (S. C.) College. The company has also contributed a hosiery knitting machine to each of the two colleges.

The **Candlewick Yarn Mills** property at Cartersville, Ga., has been acquired by **Kingston (Ga.) Mills Corp.**, and will be reopened under the name Kingston Mills, Inc. Bob Pharr, associated with Kingston mills since January and previously with Mandeville Mills, Carrollton, Ga., will be manager of the Cartersville mill.

Installation of 52 looms at **Laurel Mills, Inc.**, Rutherfordton, N. C., has brought the loom capacity to 224, according to a company announcement.

A warehouse unit, to provide approximately 1½ acres of storage space, has been constructed by **Rock Hill (S. C) Printing & Finishing Co.** The firm is planning also to install a conveyor to bring finished goods from the plant to the warehouse.

M. T. Stevens Sons & Co., division of J. P. Stevens & Co., Inc., have announced a modernization program at

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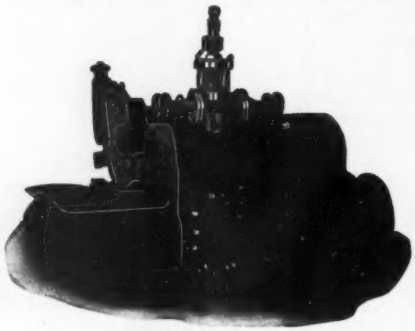

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their mill in Franklin, N. H., to include installation of two 700-horsepower boilers which can be fired interchangeably by oil or coal. The new boilers will provide enlarged steam capacity, thus boosting potential capacity for dyeing and finishing from 700 to 1,600 pieces a week.

Textiles-Incorporated, of Gastonia, N. C., recently celebrated its 20th anniversary, the company having begun business on June 1, 1913, as a consolidation formed from fourteen other companies.

In recognition of having attained new records in quality production, all employees of the Easley, S. C., plant of **Woodside Mills** were recently served free chicken and fish dinners by the company.

Two one-story additions, to provide general storage service, are under construction at the mill of **Anniston (Ala.) Manufacturing Co.** Plans are under way for another one-story structure, designed for cotton warehouse service.

Contract has been let by **Columbus (Ga.) Manufacturing Co.** for a one-story addition to the mill, to be used for expansion in the weave shed.

Phil-Maid, Inc., underwear, is planning construction of a one-story plant at 1040 West Jackson Blvd., Chicago, Ill.

About 160 looms and auxiliary equipment. for manufacture of rayon suitings, will be installed in the new rayon unit at **Osage Manufacturing Co.,** Bessemer City, N. C.

Morgan Cotton Mills, Inc., Laurel Hill, N. C., has let contract for erection of a one-story addition, to be used for expansion in the spinning department; also for improvements in the card room.

Work is under way on a one-story addition of mill No. 1 of **Clinchfield Manufacturing Co.,** Marion, N. C. The weaving division will benefit by this expansion.

E. M. Brunson and R. M. Murphy are principal incorporators of the newly organized **Dixie Mills, Inc.,** Morganton, N. C. Cotton fabrics will be manufactured.

A new mill at East London, South Africa, has been constructed by **Berkshire Knitting Mills, Inc.,** Reading, Pa., for manufacture of hosiery.

General Fabrics Co., Inc., Providence, R. I., recently chartered for manufacture of rayon fabrics, is represented by William I. Matzner, 12 Harvard Ave., Providence.

Tumbletwist Mills, Inc., Grays Lake, Ill., cotton carpets, has been purchased by R. C. McCall, Jr., president of Pinnacle Mills, Easley, S. C., and a group of local associates. The plant will be moved to Easley, and production increased. Mr. McCall is president and treasurer of the acquired company.

A processing mill for textile fabrics will be operated by the newly organized **United Cloth Co., Inc.,** Greenville, S. C. Milton S. Sheftel is president.

Plans are under way by **Standard-Coosa-Thatcher Co.,** Chattanooga, Tenn., for installation of a conveyor system for packaging operations.

New Braunfels (Tex.) Textile Mills, Inc., has plans for erection of a one-story addition, to be used for expansion in the weaving department.

Contract has been let by **James Lees & Sons Co.,** for an addition to the mill at Glasgow, Va. It will be used for fabrication and treatment of duck and other textiles for government service.

Gurney Manufacturing Co., Prattville, Ala., has installed four new knitting machines, as well as accessory equipment, for increased capacity.

The jute mill at **San Quentin (Cal.) State Prison** was recently destroyed by fire, representing a loss of more than two million dollars.

Mishawaka (Ind.) Rubber & Woolen Manufacturing Co., a subsidiary of United States Rubber Co., is planning to install a new power plant at the mill, reported to cost over a million dollars, with equipment.

Contract has been let for a water well system for the new mill at Greenville, Miss., to be occupied

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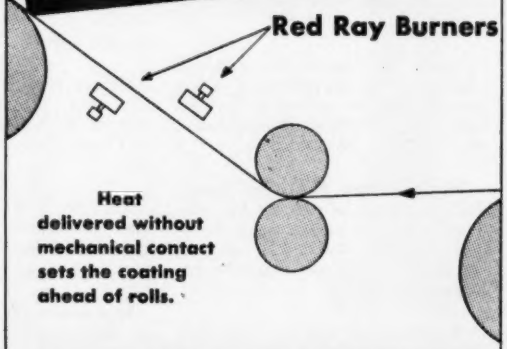

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under lease by **Alexander Smith, Inc.**, for a branch plant.

Space has been leased by **Millville (N. J.) Manufacturing Co.** at 45-47 Morris Street, Jersey City, N. J., for a factory branch, storage and distributing plant.

A textile bleach and dye works will be operated by **Chantilly Processing, Inc.**, recently chartered. Max Levin, 1 Madison Ave., New York, N. Y., is attorney and representative.

Adrian Stockings, Inc., headed by Gilbert Adrian, Beverly Hills, Cal., has been organized at Belmont, N. C., to operate a mill for manufacture of full-fashioned hosiery.

Van Raalte Co. has leased a one-story building at Murphy, N. C., and will improve and equip it for a new factory branch, storage and distributing plant.

Buckeye Fabric Finishing Co., Coshocton, O., is planning construction of a one-story mill, for increase in the firm's present capacity.

California Cordage Co., Stanton, Cal., is planning a new one-story mill near Orange, Cal., to be equipped for production of heavy cotton yarn, primarily for government service.

An expansion program in its recently acquired mill at Summerville, Ga., has been announced by **Bigelow-Sanford Carpet Co., Inc.** Work will include a large main one-story building, with machinery and facilities for increased output. Cost is reported to be about $1,500,000.

International Harvester Co., Chicago, Ill., has under construction a twine and cordage mill near New Orleans, La. The new mill will have about 224,000 sq ft floor space, and employ approximately 700 persons.

Rowland N. Robinson, 3 Columbia Road, Marblehead, Mass., is president and treasurer of **Robinson Yarns, Inc.**, Worcester, Mass., recently incorporated for the manufacture of cotton threads and yarn.

Mount Hope Finishing Co., North Dighton, Mass., celebrated its 50th anniversary on June 13 by holding open house. Arrangements included special trains to bring guests from the New York area, a New England clam bake, and formal exercises at which Congressman Joseph K. Martin paid high tribute to J. K. Milliken, president and treasurer of Mount Hope.

Cumberland (R. I.) Processes, Inc., has been chartered for operation of a textile processing mill for dyeing, bleaching, etc. Mortimer W. Newton, 32 Westminster St., Providence, R. I., is attorney and representative.

A mill in the vicinity of Richmond, R. I., will be operated by the recently chartered **Hope Woolen Mills.** Jacob J. Alprin, 53 Lauriston St., Providence, R. I., is principal incorporator and representative.

A one-story knitting mill is under construction by **Belton (S. C.) Hosiery Mills.**

Construction of a new rayon weaving mill near Belton, S. C., has been authorized by **Peerless Mills Co., Inc.**, Pawtucket, R. I. The project is reported to cost about $2,000,000.

A new one-story mill, for increased capacity, is under construction by **Santee Print Works**, Sumter, S. C.

What the TEXTILE MILLS are doing

Louis Fibres, Inc., 79 Water St., Worcester, Mass., has been organized for manufacture of synthetic fiber products. Louis I. Abrahamson is president and treasurer.

Elwood (N. J.) Hosiery Mills are planning construction of a one-story addition to the plant, for increased capacity.

Contract has been let for a one-story addition to the mill of **Century Ribbon Mills, Inc.**, York, Pa.

Kingston (Tenn.) Hosiery Mills, interest of Rockwood (Tenn.) Mills, Inc., have been closed permanently and the machinery and equipment moved to another location.

Plans are under way for construction of an addition to the local plant of **Halifax (Va.) Worsted Mills.** It will be equipped for processing scoured wool into wool top.

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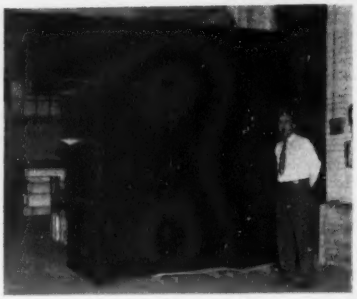

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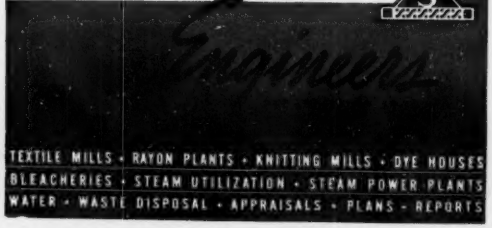

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BLEACHERIES • STEAM UTILIZATION • STEAM POWER PLANTS
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SUPPLIERS News

WHAT THEY ARE DOING

A new Canadian branch in Granby, Que., has been opened by **Roxbury Chemical Co., Ltd.**, a division of **Atlantic Chemical Co., Inc.**, for the purpose of making faster deliveries from local warehouse stock. All of the advantages of technical and laboratory services for textile processors will be at the disposal of Canadian customers at all times, according to Joseph Buonanno and Hugh Bonino, officials of Atlantic Chemical.

Arnold, Hoffman and Co., Inc., have announced expanded facilities for a major increase in the production of its Harkness and Cowing division — Cincinnati, O., branch plant.

Reliance Electric & Engineering Co. has announced the appointment of Lloyd F. Giegel as branch manager of the Gary, Ind., sales office. Daniel J. Donnelly has been added to the staff of the firm's Philadelphia office in a sales engineering capacity.

L. M. Evans, with the firm since 1936, has been placed in charge of the new Rochester, N. Y., branch office of **Worthington Pump and Machinery Corp.**

Dr. Cole Coolidge has been made director of the chemical department of the **Du Pont Co.**, succeeding Dr. Elmer K. Bolton, retired. Dr. Coolidge will direct the research activities of the department which are concerned primarily with long-range and fundamental research.

Toledo Scale Co. is celebrating its golden anniversary with a series of events spread through the year, and highlighted by meetings of the company's Quarter Century Club, made up of Toledo Scale people with 25 years or more of service.

Roy J. Anderson, formerly with U. S. Rubber Co., has joined **The Colson Corp.**, Elyria, O., as sales engineer. Mr. Anderson will have his headquarters in Detroit, Mich.

Warwick Chemical Co., division of Sun Chemical Corp., has announced the appointment of Donald D. Gagliardi as director of product development.

Carrier Corp.'s international division has reported that two Carrier centrifugal refrigeration machines are being installed in Finland's Sateri rayon plant, the first centrifugal refrigeration machines ever to be installed in that country.

The Floor Machinery Manufacturers Association recently elected as

Mr. Boller

president Arthur P. Boller, secretary and treasurer of the **S. C. Lawlor Co.** and Peter Boller Machine Works, both of Chicago, Ill.

H. Haley Ector has been added to the southern sales force of **National Ring Traveler Co.** His territory will include Alabama, western Tennessee, and Mississippi, and he will make his home in West Point, Ga.

Samuel G. Hibben, director of applied lighting at **Westinghouse Electric Corp.**, was recently elected president of the Illuminating Engineering Society.

Oakite Products, Inc., has established the David C. Ball Award for Distinguished Service, to perpetuate the memory of the founder of the firm. It will be presented annually to the member of the company's field

HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

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SUPPLIERS News
WHAT THEY ARE DOING

organization best demonstrating the spirit of service to industry during the year.

Vernon W. Colby, sales representative for **Emery Industries, Inc.,** in

Mr. Colby

Connecticut, Rhode Island, and eastern New York, has been promoted to the position of assistant chemical sales manager.

Myron T. Fleming has been made vice-president in charge of sales and engineering for the dryer division of **Proctor & Schwartz, Inc.** He succeeds George W. O'Keefe, deceased.

Harry S. Drum, former vice-president and treasurer, has been elected president of **Smith Drum & Co.,** succeeding the late Parker M. Smith. Robert N. Smith was named vice-president and treasurer in charge of sales and administration; and John P. G. Patton was elected vice-president and secretary in charge of manufacturing and engineering.

Twenty-three employees were recently inducted into the 15-year club of **Nopco Chemical Co.,** increasing the club's membership to 169. In addition to a gold service emblem, each member will receive an extra week's vacation each year.

E. B. Morrison has been appointed field engineer for **Barber-Colman Co.,** for the sale of industrial control equipment to textile mills in the Greenville, S. C., area.

The **Celanese Corp. of America,** in cooperation with Venezuelan textile interests, has organized a new rayon yarn company with offices in Caracas, Venezuela. Clifford Doolittle is general manager of the new firm, which will be known as Celanese Venezolana.

The Washington, D. C., offices of **The Kuljian Corp.** have moved to larger quarters at 1832 K Street N.W.

Edward V. Karabin was recently appointed sales engineer for **Treesdale Laboratories & Textile Process-**

Mr. Karabin

ing Co., Inc., and will inaugurate a national sales program for "Permaproof" durably flameproofed fabric used for industrial protective products. Before joining Treesdale, Mr. Karabin was associated with the Mine Safety Appliances Co.

Bruce M. Bare, formerly with Sharples Chemicals, Inc., has joined the **Dewey and Almy Chemical Co.** as sales manager of its organic chemicals division.

George A. Fitzgerald has been appointed sales manager of automotive products and John L. Callahan merchandising director for **Industrial**

Mr. Callahan

Tape Corp., a subsidiary of Johnson & Johnson. Mr. Fitzgerald has been with the firm since 1938; Mr. Callahan was formerly sales manager of the Flako Products Corp.

Redman Engineering Service, High Point, N. C., has been made southern representative for **Process Heating, Inc.** Kenneth Redman and his associates will cover the territory comprising North and South Carolina, Virginia, Georgia, and Alabama.

Robert F. Lamb has been appointed sales and service engineer for the **Esterline-Angus Co., Inc.'s** recording instruments and associated prducts, for the western New York territory. Mr. Lamb succeeds Dean Thomas, deceased.

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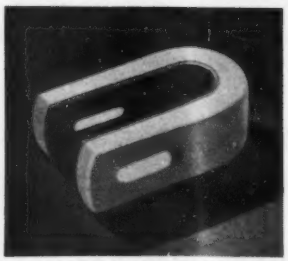

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Arthur D. Little, Inc., firm of industrial engineers, has added to its staff John Fletcher, specialist in the field of varnishes, synthetic resins, and protective coatings.

After thirty-four years with **Ciba Co., Inc.,** Walter F. Lauer retired on July 1 at the age of 65.

William J. Muller, previously with U. S. Alkali Export Assn., Inc., has joined **Southern Alkali Corp.** as export manager. The firm is a wholly-owned subsidiary of Pittsburgh Plate Glass Co.

General Electric Co. has announced the appointment of Douglas J. Donohue as Atlantic district sales manager for its Trumbull Electric department with offices in Philadelphia, Pa. Mr. Donohue has been with Trumbull since 1930.

Ross Industries Corp., Highland Park, N. J., has been merged with its wholly owned subsidiary, **J. O. Ross Engineering Corp.** Both businesses will henceforth operate under the name of J. O. Ross Engineering Corp., with main offices at 444 Madison Ave., New York, N. Y.

Elected to the board of directors of **York Corp.** were John R. Hertzler, vice-president and general sales manager; J. Keith Louden, vice-president and assistant to the president; and E. P. Vanderwicken, vice-president and treasurer. They fill vacancies caused by the death of Walter Geist and resignations of John S. McMartin and Llewellyn Williams.

The **James Hunter Machine Co.** has opened a new repair station at 114 McKoy St., Greenville, S. C. The facility will be devoted to service in the southern territory for the Leyland-Mycock machinery division of the firm. It is under the direction of Ralph C. Wing.

The **O. F. Zurn Co.** has announced the appointment to its sales staff of Robert T. English, whose territory will consist of Wisconsin, Michigan, Illinois, Indiana, and parts of Ohio and Minnesota.

The **United States Testing Co.** has installed and will operate a complete textile testing laboratory within the Reliance Manufacturing Co., Chicago, Ill. It will serve as a quality control check of Reliance's products. The firm has also re-opened its Denver, Colo., branch and laboratory, to serve western wool growers, handlers, and dealers.

A laboratory and research building, comprising 11,000 sq ft floor space, was completed recently at the Orange, Mass., plant of **Rodney Hunt Machine Co.** With the improved physical equipment, the firm feels that it is in a better position to help the textile wet process trades in

Mr. Hyde **Mr. Hunt**

solving its many problems. Rodney Hunt has announced also the appointment of Lawrence B. Hunt as sales engineer in New England and New York State. He succeeds L. M. Phillips, now in the home office. A. P. Hyde of Charlotte, N. C., is the new sales engineer in North Carolina, Virginia, and Tennessee. T. W. Kitchen continues to represent the firm in South Carolina, Georgia, and Alabama.

Commensurate with the celebration of the 100th anniversary of their founding, **Taylor Instrument Companies** have published a centennial issue of their technical external house organ, "Taylor Technology." Pictorially and editorially it gives historical background on the company and the lines of endeavor in which it chose to concentrate its energies; also, it covers some of the aspects of their manufacture and the markets served.

Naugatuck chemical division of **United States Rubber Co.** has announced a major expansion program at its Baton Rouge, La., Paracril synthetic rubber plant, which will bring plant capacity for the production of

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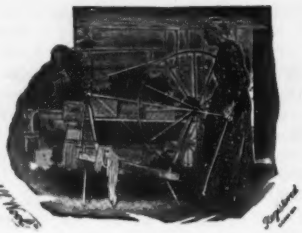

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Hugh Williams & Company, Toronto Canada—Canadian Representative

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BETTER FINISH—To prevent lint from collecting on rolls, Gastonia paints them with high-grade Bakelite enamel, which dries to a hard, glossy finish.
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GASTONIA BRUSH Co.

GASTONIA, N. C.

SUPPLIERS News
WHAT THEY ARE DOING

Paracril nitril rubber, Nitrex latex, high styrene latex, and high styrene resins to approximately 30,000,000 pounds annually. Nitrex is Paracril in latex form used in paper, textile, and leather finishing applications.

W. W. Woodard, formerly with H & B American Machine Corp., is now with **Conmar Sales Corp.** slide fasteners, as sales representative in the firm's Atlanta territory.

Ira S. Teat has been made general manager of **C. L. Upchurch and Sons,** Athens, Ga. Before going with Upchurch, Mr. Teat was with Troy Whitehead Machinery Co.

The **Engineering Sales Co.** recently moved into new quarters at 123-125 West 29th Street, Charlotte, N. C. These quarters will provide both office and warehouse space in the same location.

W. D. May has been made controller for **W. D. Dodenhoff Co.** and **Textile Equipment Corp.,** Greenville, S. C. He was previously employed by Ernst & Ernst, accountants.

William E. Lundgren, formerly with Whitin Machine Works, has joined **The Bullard Clark Co.** and

Mr. Lundgren

will head the enlarged research and development department.

The Miami Valley Division of the Superintendents Association was recently entertained by **The Orr Felt & Blanket Co.** in Piqua, Ohio. At the business meeting E. H. Bindley, Cheney Pulp & Paper Corp., Franklin, O., was elected chairman of the division.

Smith Drum & Co., Philadelphia, Pa., have appointed the newly organized firm of **Parrott & Ballentine,** 610 South Carolina National Bank Bldg., Greenville, S. C., as their sales agent for the southern states. Both Perry M. Parrott and Joe M. Ballentine have been connected with Smith Drum in sales for a number of years and are widely known throughout the textile industry. They will represent Smith Drum for their complete line of equipment which includes hosiery dyeing machines, hosiery conveyor dryers, skein dyeing equipment, package and beam dyeing machines, centrifugal and pressure extractors, cabinet and port dryers.

In addition to the Smith Drum account, the new firm has plans to handle other allied lines of machinery.

Owen C. Divan was recently appointed service manager of the new Fiberglas yarn plant of **Owens-Corning Fiberglas Corp.,** located in Anderson, S. C. He is succeeded in his former capacity as service manager of the Fiberglas textile products division by David W. Anderson.

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Like other industries during this emergency, the Crossett Chemical Company has its production problems. You may rest assured, however, that—even in these uncertain days—the highest standards of quality will be maintained.

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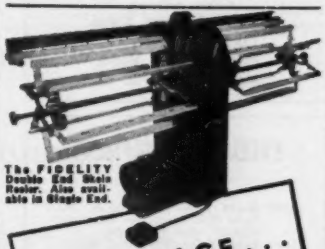

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Finisher, especially experienced in resin finishes on spun rayons and blends in medium and heavy suitings. Location New England. Reply in confidence with complete personal details and salary requirements to Box No. 448, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

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Interested in six to twelve months' position in South America to introduce warp preparation and filament rayon and spun rayon constructions. Must be able to select and introduce rayon fabrics consistent with equipment available in local mills. Salary $1,000 per month. Reply to Box No. 453, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

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interested in six to twelve months' position in South America to introduce latest dyeing, finishing, and crease-resistant techniques for spun rayon fabrics. Salary $1,000 per month. Reply to Box No. 454, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

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28—Saco-Pettee 11x5½ slubber, 64 spindles, L.D.
4—Saco-Pettee 9x4½ Slubbers, 100 spindles, J-1, L.D.
12—Saco-Pettee Spinning Frame, 256 spindles, 2¾" ga., L.D.

WEAVING

400—Crompton & Knowles 4x1 auto. looms, 45½" r.s., M.D.
300—Draper XD looms, 44" cloth, 20 harness dobby, M.D.
12—Draper O looms, 93" reed space, M.D.
Rayon Weaving Plant S6 looms, Schweiter winders, HiSpeed warpers
1—Cocker Hi-Speed Warper, 54¼", age 1948

MORRISON WILLIAMS RANGE, 60" wide, 2 Williams boxes, Micro-set, padder.

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Coming in September

A Striking Feature Presentation

TIPS ON WET PROCESSING

Next month TEXTILE INDUSTRIES will publish a special section featuring an unusual presentation of the most recent information on Wet Processing. This valuable group of articles will cover the subject in great detail with many illustrations, using "show how" to build "know how" among readers interested in wet processing.

Here is a preview of the introductory paragraphs as they will appear in the September issue . . .

"If you, as a member of the textile industry, have anything to do with wet processing of textiles, you are part of a huge industry—and you are in a section of the industry on which the rest of it leans heavily."

"Wet processing has, in all probability, created increased consumer demand for your product; and wet processing of a competing product may have made your own obsolete".

Don't fail to read next month's issue. The discussion of wet processing will be one of the outstanding contributions to textile manufacturing progress in 1951.

Put a note on your calendar NOW to be sure you see "Tips on Wet Processing" in the September 1951 issue of TEXTILE INDUSTRIES.

ADVERTISER'S INDEX

A

Abbott Machine Co. ..... *
Advertising Council, Inc. ..... *
Aldrich Machine Works 66
Allen Beam Co. 212
Allen Son's Co., Wm. 206
Allis Co., Louis ..... *
Allis-Chalmers Mfg. Co. ..... 50 and 51
Althouse Chemical Co. 52
Amalgamated Chemical Corp. 62
American Air Filter Co. 26
American Aniline Products Inc. 153
American Associated Consultants, Inc. 188
American Cyanamid Co., Industrial Chemical Div. ..... *
American Lava Corp. 78
American Moistening Co. ..... *
American Monorail Co., Inc. 120
American Paper Tube Co. ..... *
American Steel & Wire Co. ..... *
American Viscose Corp. 45
American Yarn & Processing Co. 218
Amplex Mfg. Co. 7
Anemostat Corp. of America ..... *
Anheuser-Busch, Inc. 183
Arkansas Company, Inc. 162
Armstrong Cork Co. ..... 22, 23 and 33
Arnold, Hoffman & Co., Inc. 47
Ashworth Bros., Inc. 8
Atkinson, Haserick & Co. ..... *
Atlanta Belting Co. 182
Atlanta Paper Co. 9
Atlantic Steel Co. 179
Atlas Mineral Products Co. ..... *
Aurora Pump Co. ..... *
Avondale Mills 205

B

Bagley & Sewall ..... *
Bahnson Co. 21
Barber-Colman Co. (Controls) ..... *
Barber-Colman Co. (Textile Div.) 154
Barnes Textile Associates Inc. 205
Best & Co., Edward H. 218
Bijur Lubricating Co. ..... *
Birch Brothers, Inc. ..... *
Birmingham Tank Co. 202
Bond Co., Charles ..... *
Booth Co., Benjamin ..... *
Borne, Scrymser Co. 198
Brinton Co., H. ..... *
Brush Development Corp. 156
Bryant Chemical Corp. 150
Buffalo Forge Co. 170-B
Buffalo Pumps, Inc. 185
Burlington Engineering Co., Inc. 39

C

Calco Chemical Division 135
Carbomatic Corporation 200
Carborundum Co. 10
Carnegie-Illinois Steel Corp. ..... *
Carrier Corporation 40
Carter, Inc., A. B. ..... *
Celanese Corp. of America & Subsidiary Cos. 58
Ciba Co., Inc. 35
Clark, H. E. ..... *
Classified Ads ..... 220 and 221
Clayton Co., J. M. ..... *
Cleveland Tramrail Division ..... *
Clinton Foods Inc ..... *
Clipper Belt Lacer Co. 202
Cocker Mach. & Fdry. Co. 68
Cole Co., R. D. 204
Colson Corporation ..... *
Columbia Steel Co. ..... *
Commercial Factors Corp. ..... Second Cover
Continental-Diamond Fibre Co. ..... *
Corn Products Sales Co. 16
Crane Co. 46
Crescent Corporation ..... 42 and 43
Crompton & Knowles Loom Works 60
Crossett Chemical Co. 219
Crouse-Hinds Co. ..... *
Curlator Corp. (Textile Corp.) 57
Curtis & Marble Machine Co. ..... *
Cutler-Hammer, Inc. ..... *
Cyclotherm Corp. ..... *

D

Daniels, Inc., C. R. 213
Darnell Corp., Ltd. 180
Dary Ring Traveler Co. ..... *
Dayton Rubber Mfg. Co. 84
Dexter Chemical Corp. ..... *
Dixie Leather Corp. 64
Dixon Saddle Co. ..... *
Dodge Mfg. Corp. ..... *
Dommerich & Co., L. F. ..... *
Dow Chemical Co. 31
Draper Corporation 1
Dronsfield Bros. Ltd. ..... 186 and 204
Duesberg-Bosson Card Clothing Co. ..... *
Du Pont de Nemours & Co., Inc., E. I. (Dyestuff Div.) 132
Du Pont de Nemours & Co., Inc., E. I. (Electrochemicals Dept.) ..... *
Du Pont de Nemours & Co., Inc., E. I. (Finishes Div.) ..... *
Du Pont de Nemours & Co., Inc., E. I. (Rayon Div.) ..... *
Durant Mfg. Co. ..... *

E

Economy Baler Co. ..... *
Edda International Corp. ..... *
Emery Industries, Inc. ..... *
Emmons Loom Harness Co. ..... *
Eriez Mfg. Company ..... *
Excel Textile Supply Co. 184

F

Fafnir Bearing Co. ..... *
Fidelity Machine Co. 219
Finnell Systems, Inc. ..... *
Fletcher Works ..... *
Formica Co., The ..... *
Foster Machine Co. 32
Foxboro Company 140
Franklin Process Co. ..... *

G

Gardner-Denver Co. 63
Gaston County Dyeing Mach. Co. ..... *
Gastonia Brush Co. 218
Gastonia Roller, Flyer & Spindle Co. ..... *
Gastonia Textile Sheet Metal Works ..... *
Gates Rubber Co. ..... *
Gaylord Container Corp. ..... *
General Dyestuff Corp. 170-A
General Dyestuff Corp. (Antara Div.) ..... *
General Electric Co. ..... 158 and 159
General Radio Co. 48
Gessner Co., David ..... *
Girdler Corp. ..... *
Goodrich Rubber Co., B. F. 5
Goodyear Tire & Rubber Co. ..... *
Graton & Knight Co. 64
Gulf Oil Corp. 61

H

H & B American Machine Co. ..... *
Hansen Mfg. Company ..... *
Hart Products Corp. ..... *
Hayes Industries, Inc. 144
Hayssen Mfg. Co. ..... *
Hermas Machine Co. 175
Herr Mfg. Company ..... *
Hinnekens Machine Co. ..... *
Hofmann & Co., Inc., Alfred 204
Holt Hardwood Co. ..... *
Houghton & Co., E. F. 146
Howard Bros. Mfg. Co. 44
Hubinger Company ..... *
Hunter Mach. Co., James ..... *

I

Ideal Mach. Shops ..... *
Industrial Chemicals Div. ..... *
Industrial Dryer Corp. 197
Industrialaire Co., Inc. 204
Interchemical Corp. (Textile Color Div.) ..... *
Iselin & Co., Inc., Wm. 198

J

Jacobs Northern Div., E. H. ..... *
Jarrell, Inc., John ..... *
Jarrett & Co., Cecil H. 170
Jenkins Metal Shops, Inc. 76
Jenkins Sons, Inc., M. W. ..... *
Johnson Bronze Co. ..... *
Johnson Corp. 203
Johnson Machine Works, Chas. B. ..... *

K

Kali Mfg. Co. 200
Kearny Mfg. Co. 206
Keever Starch Co. 126
Keystone View Co. ..... *
Kidde & Co., Inc., Walter 24
Kidde Mfg. Co. ..... *
Kirkman & Dixon Machine Shop & Foundry 190

L

Lambeth Rope Corp. 206

ADVERTISER'S INDEX

Lane & Bros., Inc., W. T. 206
Lassonde, Joseph M. ..... *
Laurel Soap Mfg. Co. ..... *
Lawlor Co., S. C. 189
Lazenby & Co., F. A. ..... *
Lee Co., L. A. 214
Lestershire Spool & Mfg. Co. ..... *
Livermore Corp., H. F. ..... *
Lockwood Green Engineers 80
Logan Company ..... *
Logemann Brothers ..... *
Loper Co., Ralph E. 210
Louden Machinery Co., The 59

M

McBride Co., Inc., Edward J.....Third Cover
Machinecraft, Inc. 56
Manton Gaulin Mfg. Co., Inc. ..... *
Maple Flooring Mfrs. Assn. ..... *
Marquette Metal Products Co. 70
Marshall & Williams Corp. ..... *
Mason-Neilan Regulator Co. 177
Meadows Mfg. Co. ..... *
M-B Products ..... *
Meese, Inc. ..... *
Merrow Machine Co. 210
Metal Glass Products Co. ..... *
Miller Motor Co. 41
Milton Machine Works 217
Minneapolis-Honeywell Regulator Co. (Industrial Div.) ..... *
Moisture Register Co. 211
Monarch Knitting 201
Monsanto Chemical Co. 37
Monticello Bobbin Co. 182
Morningstar Nicol, Inc. 138
Morris Fur Co. ..... *
Mt. Hope Machinery Co. ..... *

N

Nash Company, J. M. 186
National Aniline Div. 17
National Drying Mchy. Co., Inc. ..... *
National Ring Traveler Co. 210
National Tube Co. ..... *
New Departure Div. ..... *
New England Bobbin & Shuttle Co. 168
New York & New Jersey Lubricant Co...172
Nolu Oilless Bearing Co. 218
Nopco Chemical Co. 128
Norcross Corporation ..... *
North, Inc., Frank G. ..... *

O

Oakite Products, Inc. 200
Onyx Oil & Chemical Co. ..... *
Orr Felt & Blanket Co., The 209

P

Parker-Cramer Co. 173
Paisley Products, Inc. 138
Peerless Pump Division 18
Peerless Roller Covering Shop 210
Penick & Ford, Ltd., Inc. 212
Perfecting Service Company ..... *
Perkins & Sons, Inc., B. F. ..... *
Pittsburgh Steel Products Co. ..... *
Pneumafil Corporation 176
Powell Co., Wm. ..... *
Precision Gear & Mach. Co. 205
Proctor & Gamble Distributing Co. 6
Proctor & Schwartz, Inc. .....166 and 167

R

Ragan Ring Co. ..... *
Red Ray Mfg. Co. 212
Redman Card Clothing Co. ..... *
Reeves Pulley Co. ..... *
Reiner, Inc., Robert 30
Reliance Electric & Engr. Co. ..... *
Rhoads & Sons, J. E. ..... *
Rice Dobby Chain Co. 216
Richards-Wilcox Mfg. Co. ..... *
Ridge Tool Co. 169
Riggs & Lombard, Inc. ..... *
Robbins & Myers, Inc. (Industrial Pump Div.) ..... *
Robert & Co. Associates, Inc. 224
Rohm & Haas Co. ..... *
Ross Engr. Corp., J. O. ..... *
Roy & Son Co., B. S. ..... *
Royce Chemical Co. ..... *

S

Saco-Lowell Shops ..... *
Sandoz Chemical Works ..... *
Sarco Company, Inc. 19
Sargents Sons Corp., C. G. 192
Saxl Instrument Co. ..... *
Scherr Co., Inc., Geo. ..... *
Scholler Bros., Inc. 134
Scott Testers, Inc. ..... *
Scott & Williams, Inc. ..... *
Selig Company 189
Seydel-Woolley & Co. 214
Shepard Niles Crane & Hoist Corp. ..... *
Sherwin-Williams Co. 38
Simco Company ..... *
Sims Metal Works ..... *
Sinclair Refining Co., Inc. ..... *
Sipp-Eastwood Corp. 180
Sirrine & Co., J. E. 214
SKF Industries, Inc. ..... *
Smith, Drum & Company 160
Sonoco Products Co. 74
Southeastern Engineering Co. ..... *
Southern Belting Co. ..... *
Southern Shuttles Div. 171
Southern Spindle & Flyer Co. 178
Southern States Equip. Corp. 174
Specialty Hardwood Co. 193
Staley Mfg. Co., A. E. 142
Standard Brands, Inc. ..... *
Standard Chemical Prod., Inc. ..... *
Standard-Coosa-Thatcher Co. ..... *
Standard Designers, Inc. 210
Standard Equipment Co. ..... *
Standard Fabricators, Inc. 12
Standard Mill Supply ..... *
Standard Oil Company, Inc. ..... *
Standard Pressed Steel Co. .....27 and 219
Steel Heddle Mfg. Co. 171
Sterling Ring Traveler Co., Inc. ..... *
Sun Oil Co. 122
Supreme Knitting Machine Co. 29
Sykes Foundry & Machine Co., Inc. 209
Sylvania Division American Viscose Corp. *

T

Tanner Co., Charles S. 168
Taylor Instrument Cos. ..... *
Tennant Co., G. H. ..... *
Tennessee Coal, Iron and Railroad Co.... *
Tennessee Corp. 202
Tennessee Prod. & Chem. Co. 25
Terrell Co. ..... *
Texas Co. 2
Textile Apron Co. 218
Textile Banking Co., Inc. 69
Textile Industries ..... *
Textile Laboratories ..... *
Textile Machine Works.....86 and 136
Textile Shield Co., Inc. 215
Textile Shops .....Front Cover
Thomaston Mills ..... *
Tidewater Associated Oil Co. 28
Toledo Scale Co. 181
Ton-Tex Corp. 212
Torrington Co. .....53 and 54
Treasury Department ..... *
Trico Fuse Mfg. Co. ..... *
Trumeter Co. ..... *
Trust Company of Georgia 148
Turbo Machine Co. ..... *

U

Union Special Machine Co. 164
U. S. Bobbin & Shuttle Co. 49
U. S. Ring Traveler Co. 214
U. S. Steel Corp. 82
U. S. Textile Mach. Co. 72
United States Rubber Co. .....14 and 15
Universal Winding Co. 18
Up-Right Scaffolds ..... *
Uster Corporation ..... *

V

Vanderbilt Co., Inc., R. T. 194
Van Vlaanderen Machine Co. 11
Veeder Root, Inc. .....Fourth Cover
Victor Ring Traveler Co. ..... *

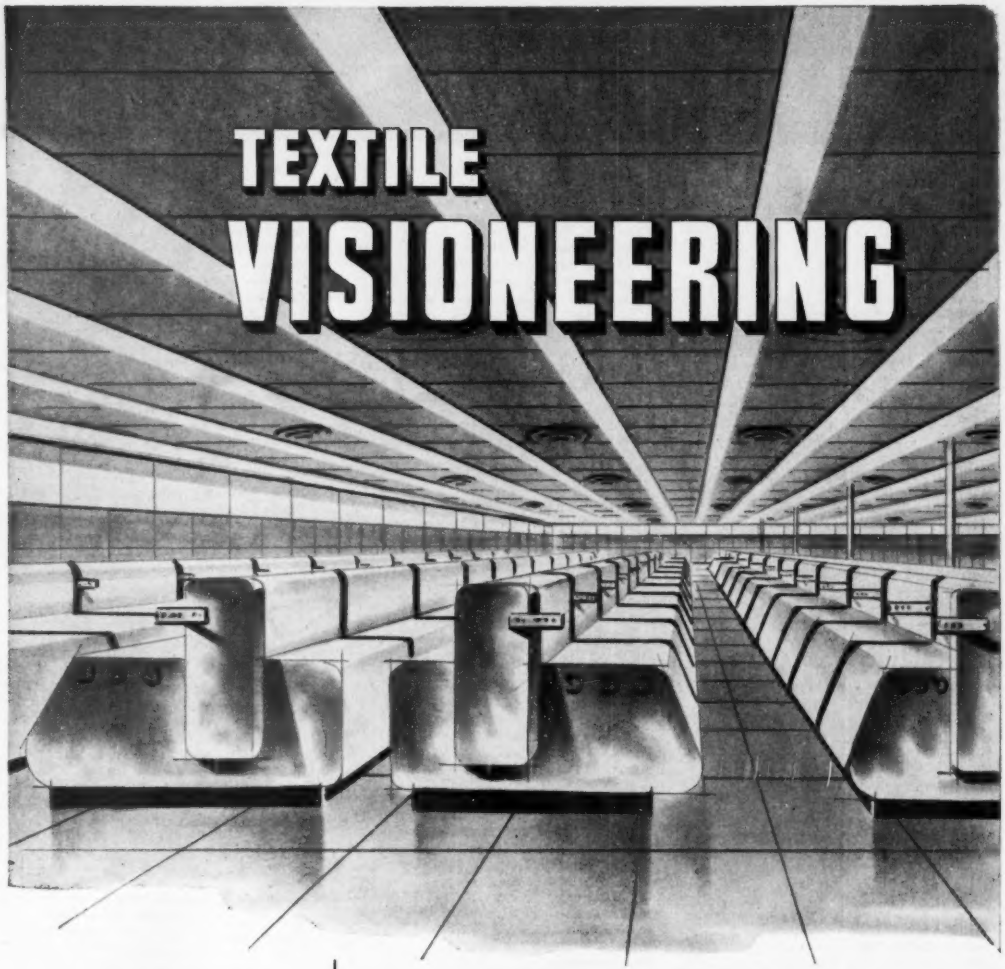
W

WAK Industries, Inc. 218
Walker Mfg. Co. ..... *
Wallerstein Co., Inc. ..... *
Walton & Lonsbury Company 214
Wamesit Warper Co. ..... *
Want Ads .....220 and 221
Warner & Swasey Co. 34
Watson-Williams Mfg. Co. ..... *
West Point Fdy. & Mach. Co. 124
Westinghouse Electric Corp. 65
Whitehead Engr. Co. 191
Whitin Machine Works 20
Whitinsville Spinning Ring Co. 203
Wicaco Machine Corp. 196
Wildman Mfg. Co. 36
Wilkin & Matthews 195
Willcox & Gibbs Sewing Machine Co..... 55
Wilson Co., Emil V. ..... *
Winsor & Jerauld ..... *
Wolf & Co., Jacques 4
Worthington Pump & Mchy. Corp. 130

Y

Yale & Towne Mfg. Co. 67

TEXTILE VISIONEERING



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AIR CONDITIONING

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PROCESS MACHINERY and EQUIPMENT LAYOUTS

Advanced textile mill designs such as this are not just dreams.

Many practical textile innovations on our drawing boards today will soon be humming for far-sighted textile firms in many fields. These streamlined designs and plans for machinery and mills all have one goal in common—lower production costs!

The same cost-cutting principles used in designing new textile projects can be modified to fit the modernizations of existing facilities, large or small, with essentially the same results.

Textile visioneering may be your answer to growing costs and reduced profits.

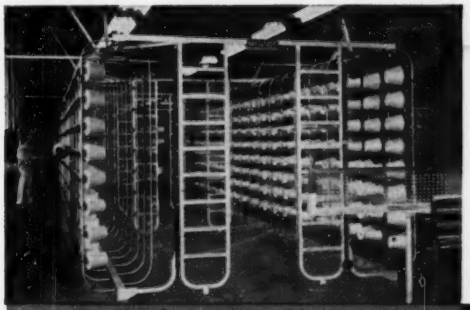
ROBERT AND COMPANY ASSOCIATES

Architects and Engineers

ATLANTA

Mc BRIDE— TEXTILE EQUIPMENT NEWS

PUBLISHED BY EDWARD J. McBRIDE CO., INC. • 1398 ADAMS AVENUE • PHILADELPHIA 24, PA.

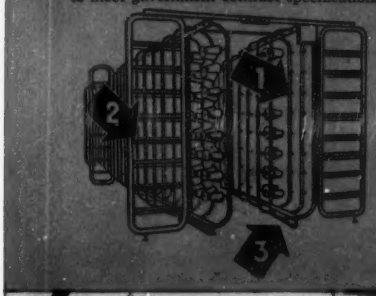


McBRIDE MAGAZINE CREELS SPEED WARPING—CUT WARPING COSTS

The photographs on this page show typical installations of McBride SRM magazine creels. Every one of them is equipped with McBride patented Swinging Arms, Universal Cone Holders, Double Post Disc Type Tension Units (1), and McBride instant action Electro Magnetic Stop Motion (2), McBride monorail construction (3) means easy cleaning. Yet the thing most typical about these creels is their difference! Each is engineered to the needs of the user.

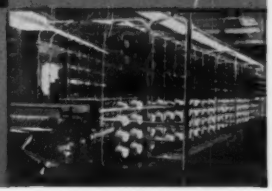
McBride Magazine Creels can be assembled for outside loading with yarn coming down the center as in the silk and rayon system, or with inside loading and yarn coming down the outside as in the cotton or wool systems.

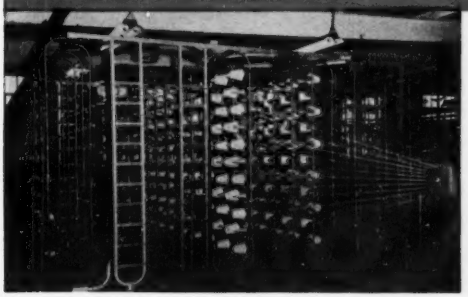
This McBride magazine creel has given a prominent narrow fabric weaver versatility to prepare alternate nylon and cotton warps to meet government contract specifications.



Woolen and worsted ball warps are quickly prepared by this prominent eastern spinner with the aid of this McBride SRM Magazine Creel.

This creel for high speed warping of woolen and worsted pattern fabrics has cut warping costs over 30% for a prominent Pennsylvania manufacturer.





This compact tandem assembly has cut warp preparation costs by ¾ for this narrow fabric weaver.

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